CITY OF FORT LUPTON
CITY COUNCIL/ENTERPRISE BOARDS
REGULAR MEETING AGENDA
Tuesday, July 5, 2022
6:00 PM
130 South McKinley Avenue

Zo Stieber-Hubbard, Mayor
Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3
David Crespin, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

You may join in person or join remotely by clicking on: https://global.gotomeeting.com/join/851983253

Call to Order

Pledge of Allegiance

Roll Call

Persons to Address Council - This portion of the Agenda is provided to allow members of the audience to present comments to the City Council. The City Council may not respond to your comments this evening, rather they may take your comments and suggestions under advisement or your question may be directed to the appropriate staff member for follow-up. Please limit the time of your comments to three (3) minutes - Mayor Stieber

a. Brian Blehm, Community Affairs Representative, United Power

Approval of Agenda

Review of Accounts Payables

a. Accounts Payable

Consent Agenda - Consent Agenda items are considered to be routine and will be enacted by one motion and vote. There will be no separate discussion of Consent Agenda items unless a Councilmember so requests, in which case the item may be removed/moved from the Consent Agenda.

a. June 20, 2022 City Council Special Meeting Minutes

b. Second Reading Ordinance 2022-1144 An Ordinance of the City of Fort Lupton, Colorado, Amending Chapter 5, Article VI, Section 5-185. – Process; Chapter 15, Article I, Section 15-7 - Concept Land Use Plan Standards and Chapter 18, Article I, Section 18-9 - Requirements for Small Wind Energy Systems of the Fort Lupton Municipal Code

Public Hearings - Public Hearings allow members of the audience to present comments and questions to the City Council on the item being presented. Comments and questions may be limited to three (3) minutes- Mayor Stieber

a. AM 2022-106 A Resolution Approving 7B Building & Development and Baseline Engineering Request for a Special Use Permit for an Auto Wash Facility for a Property Located North and Adjacent 1st Street / Highway 52 and Approximately 0.03 Miles East of Copper Place.

b. AM 2022-107 A Ordinance Approving Rezoning of a Property, Legally Described in Exhibit A to the Proposed Ordinance Known as the Flats at Lupton Village Change of Zone

c. AM 2022-108 A Resolution Approving a Preliminary Plat and PUD Plan, Known as The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan for the City Council's Consideration

d. AM 2022-110 A Resolution Approving a Special Use Permit for a Short-Term Rental Located at 711 Denver Avenue.

e. AM 2022-111 A Resolution Approving a Preliminary Plat, Known as the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat

Action Memorandum

a. AM 2022-113 Upgrade Electrical Service To 400A in the City Hall Building for a Total of $123,200.00 Allocated from the General Fund

b. AM 2022-109 A Resolution Approving a Final Plat, Known as The Flats at Lupton Village PUD Final Plat

c. AM 2022-112 A Resolution Approving a Final Plat, Known as the Cottonwood Greens PUD Filing Nos. 5 - 10

Information Memorandum

a. IM 2022-008 Adding Amaze Health as an Employee Benefit Effective August 1, 2022 for a Total of $4,650 for 2022

b. IM 2022-009 Update on the Opioid Settlement Opt-out for Direct Funding and Have the City Join the Regions Group

Staff Reports

Mayor/Council Reports

Future City Events

a. July 5, 2022, Upcoming Events

Executive Session "To determine positions relative to matters that may be subject to negotiations, develop a strategy for negotiations, and/or instruct negotiators, pursuant to C.R.S. Sec. 24-6-402 (4) (e)." Requested building permit fee waivers.

Adjourn

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
Bank Code: Golf Course-Golf Course							
002254	ADIDAS AMERICA INC		06/28/2022	Regular	0.00	210.00	85200
6157012186	Invoice	06/14/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	210.00	
000183	CALLAWAY GOLF SALES COMPANY		06/28/2022	Regular	0.00	386.49	85201
935026454	Invoice	06/13/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	186.39	
935026503	Invoice	06/13/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	200.10	
000239	CITY OF FORT LUPTON		06/28/2022	Regular	0.00	43,862.18	85202
FIN2022185	Invoice	06/21/2022	GOLF-PAYROLL EXPENSE 5/28-6/10/22 PAID ...		0.00	43,058.65	
FIN2022186	Invoice	06/21/2022	GOLF-PAYROLL EXPENSE 5/25-5/25/22 PAID ...		0.00	803.53	
002723	EAGLE ROCK COMPANY OF COLO		06/28/2022	Regular	0.00	1,046.63	85203
8868688	Invoice	06/17/2022	GOLF-BEVERAGES-PRO SHOP		0.00	240.00	
8869110	Invoice	06/20/2022	GOLF-BEVERAGES-PRO SHOP		0.00	321.50	
8869353	Invoice	06/20/2022	GOLF-BEVERAGES-PRO SHOP		0.00	57.73	
8869354	Invoice	06/20/2022	GOLF-BEVERAGES-PRO SHOP		0.00	427.40	
000567	HIGH COUNTRY BEVERAGE CORP		06/28/2022	Regular	0.00	785.50	85204
W-6256337	Invoice	06/20/2022	GOLF-BEVERAGES-PRO SHOP		0.00	785.50	
000636	JC GOLF ACCESSORIES		06/28/2022	Regular	0.00	307.73	85205
SI-181307	Invoice	06/15/2022	GOLF-SUNSCREEN-PRO SHOP		0.00	307.73	
000913	POTESTIO BROTHERS EQUIPMENT		06/28/2022	Regular	0.00	99.03	85206
10440K	Invoice	06/16/2022	GOLF-V BELT/RADIATOR HOSE-MAINT		0.00	99.03	
000944	REPUBLIC NATIONAL DISTRIBUTING CO LLC		06/28/2022	Regular	0.00	511.75	85207
6645820	Invoice	06/15/2022	GOLF-BEVERAGES-PRO SHOP		0.00	401.90	
6645821	Invoice	06/15/2022	GOLF-BEVERAGES-PRO SHOP		0.00	109.85	
000999	SHAMROCK FOODS COMPANY		06/28/2022	Regular	0.00	1,149.01	85208
25515911	Invoice	06/16/2022	GOLF-FOOD/PRE PACKAGING-PRO SHOP		0.00	1,149.01	
001022	SOUTHERN GLAZER'S OF CO		06/28/2022	Regular	0.00	512.98	85209
2834407	Invoice	06/15/2022	GOLF-BEVERAGES-PRO SHOP		0.00	512.98	
001052	SWIRE COCA-COLA, USA		06/28/2022	Regular	0.00	531.94	85210
24908201974	Invoice	06/17/2022	GOLF-BEVERAGES-PRO SHOP		0.00	531.94	
001105	TOSHIBA FINANCIAL SERVICES		06/28/2022	Regular	0.00	236.91	85211
475071015	Invoice	06/15/2022	GOLF-COPIER LEASE/OVERAGE		0.00	236.91	
001963	WASTE CONNECTIONS OF COLO, INC		06/28/2022	Regular	0.00	341.21	85212
6259385V311	Invoice	06/15/2022	GOLF-JUL22 TRASH SERVICE-PRO SHOP		0.00	242.34	
6259386V311	Invoice	06/15/2022	GOLF-JUL22 TRASH SERVICES-MAINT		0.00	98.87	
001207	WESTERN DISTRIBUTING INC		06/28/2022	Regular	0.00	273.24	85213
696816	Invoice	06/17/2022	GOLF-BEVERAGES-PRO SHOP		0.00	273.24	
000024	ACE HARDWARE OF FORT LUPTON		07/05/2022	Regular	0.00	327.94	85214
94604	Invoice	06/19/2022	GOLF-FASTENERS-PRO SHOP		0.00	2.40	
94641	Invoice	06/21/2022	GOLF-SUPPLIES-MAINT		0.00	65.93	
94658	Invoice	06/22/2022	GOLF-BRACE/LETTERS-MAINT		0.00	10.97	
94688	Invoice	06/24/2022	GOLF-SUPPLIES/TOOLS-MAINT		0.00	89.49	
94748	Invoice	06/28/2022	GOLF-ROPE/BUNGEE/FASTENERS-PRO SHOP		0.00	17.54	
94760	Invoice	06/29/2022	GOLF-SUPPLIES-MAINT		0.00	141.61	
002254	ADIDAS AMERICA INC		07/05/2022	Regular	0.00	1,055.90	85215

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
6157006490	Invoice	06/13/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	75.04	
6157018517	Invoice	06/14/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	78.00	
6157043128	Invoice	06/17/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	260.44	
6157075398	Invoice	06/22/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	642.42	
000044	AGFINITY INC		07/05/2022	Regular	0.00	5,819.60	85216
I64943	Invoice	06/24/2022	GOLF-FUEL-MAINT		0.00	4,023.71	
I64944	Invoice	06/24/2022	GOLF-FUEL-MAINT		0.00	1,727.16	
I64945	Invoice	06/24/2022	GOLF-FUEL-MAINT		0.00	68.73	
002853	BUCKEYE CLEANING CENTER		07/05/2022	Regular	0.00	595.93	85217
90424739	Invoice	06/23/2022	GOLF-JANITORIAL SUPPLIES-PRO SHOP		0.00	595.93	
000183	CALLAWAY GOLF SALES COMPANY		07/05/2022	Regular	0.00	1,965.55	85218
935049488	Invoice	06/15/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	380.20	
935064378	Invoice	06/17/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	247.99	
935077666	Invoice	06/21/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	441.90	
935077668	Invoice	06/21/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	895.46	
000206	CENTURYLINK		07/05/2022	Regular	0.00	57.39	85219
333164407 JUL22	Invoice	06/19/2022	GOLF-PHONE SERVICE-MAINT		0.00	57.39	
000239	CITY OF FORT LUPTON		07/05/2022	Regular	0.00	99,336.03	85220
FIN2022183	Invoice	06/17/2022	GC-REIMBURSE FOR IMPERIAL CUSTOM INV ...		0.00	94,026.50	
FIN2022191	Invoice	06/28/2022	GOLF-EAP FOR JULY 2022		0.00	4.32	
FIN2022192	Invoice	06/28/2022	GOLF-REIMBURSE PINNACOL INV 20922650 ...		0.00	1,492.27	
FIN2022195	Invoice	06/28/2022	Golf ComData Purchases		0.00	3,812.94	
000307	COMCAST CABLE COMM, LLC		07/05/2022	Regular	0.00	23.76	85221
0025494 JUL22	Invoice	06/18/2022	GOLF-CABLE JUL22-PRO SHOP		0.00	23.76	
002723	EAGLE ROCK COMPANY OF COLO		07/05/2022	Regular	0.00	310.75	85222
8885435	Invoice	06/27/2022	GOLF-BEVERAGES-PRO SHOP		0.00	310.75	
001374	EPOCH EYEWEAR		07/05/2022	Regular	0.00	520.06	85223
INV-004169	Invoice	06/20/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	520.06	
000487	FORT LUPTON PACK & SHIP		07/05/2022	Regular	0.00	4.62	85224
66478	Invoice	06/22/2022	GOLF-PACKAGE SHIPMENT-PRO SHOP		0.00	4.62	
002011	FRONT RANGE LUMBER COMPANY		07/05/2022	Regular	0.00	88.42	85225
20154/2	Invoice	06/22/2022	GOLF-OSB/FURRING STRIPS-MAINT		0.00	88.42	
000536	GOLF AND SPORT SOLUTIONS LLC		07/05/2022	Regular	0.00	3,864.12	85226
40518	Invoice	06/08/2022	GOLF-PEA GRAVEL-MAINT		0.00	346.39	
40572	Invoice	06/14/2022	GOLF-BUNKER SAND-MAINT		0.00	560.05	
40604	Invoice	06/16/2022	GOLF-EXTRA FINE SAND-MAINT		0.00	614.07	
40681	Invoice	06/22/2022	GOLF-BUNKER SAND-MAINT		0.00	1,176.84	
40751	Invoice	06/23/2022	GOLF-BUNKER SAND-MAINT		0.00	1,166.77	
000567	HIGH COUNTRY BEVERAGE CORP		07/05/2022	Regular	0.00	1,556.90	85227
W-6260764	Invoice	06/27/2022	GOLF-BEVERAGES-PRO SHOP		0.00	1,556.90	
000625	JAN MARTIN		07/05/2022	Regular	0.00	224.40	85228
061522	Invoice	06/15/2022	GOLF-REIMBURSEMENT FOR 2 ROSE BUSHES...		0.00	224.40	
000648	JF MANUFACTURING INC		07/05/2022	Regular	0.00	1,094.86	85229
52011	Invoice	06/14/2022	GOLF-REGULATION FLAGS-MAINT		0.00	1,094.86	
002977	JOSEPH ELLIOTT USA LLC		07/05/2022	Regular	0.00	411.60	85230
15694	Invoice	06/16/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	411.60	
001913	LUXOTTICA OF AMERICA, INC		07/05/2022	Regular	0.00	101.14	85231
6912190341	Invoice	06/20/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	101.14	

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
000795	MILE HIGH TURFGRASS, LLC		07/05/2022	Regular	0.00	6,153.03	85232
9337	Invoice	06/21/2022	GOLF-TALON TINE MOUNT-MAINT		0.00	2,206.61	
9489	Invoice	06/16/2022	GOLF-CHEMICALS-MAINT		0.00	3,853.42	
9516	Invoice	06/27/2022	GOLF-PELLET PRO BOWL & GASKET-MAINT		0.00	93.00	
000862	O'REILLY AUTO PARTS		07/05/2022	Regular	0.00	287.44	85233
4489-384129	Invoice	06/13/2022	GOLF-BATTERY-MAINT		0.00	126.49	
4489-384155	Invoice	06/13/2022	GOLF-BATTERY-MAINT		0.00	120.49	
4489-384842	Invoice	06/16/2022	GOLF-AIR FILTER-MAINT		0.00	25.90	
4489-386225	Invoice	06/22/2022	GOLF-WHEEL NUT-MAINT		0.00	14.56	
000913	POTESTIO BROTHERS EQUIPMENT		07/05/2022	Regular	0.00	149.42	85234
10503K	Invoice	06/22/2022	GOLF-CAP-MAINT		0.00	25.56	
10508K	Invoice	06/22/2022	GOLF-SPINNER-MAINT		0.00	123.86	
000999	SHAMROCK FOODS COMPANY		07/05/2022	Regular	0.00	2,776.21	85235
25536769	Invoice	06/23/2022	GOLF-FOOD/PACKAGING-PRO SHOP		0.00	2,776.21	
000246	SRIXON/CLEVELAND GOLF/XX10		07/05/2022	Regular	0.00	451.44	85236
7016630 SO	Invoice	06/14/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	451.44	
001052	SWIRE COCA-COLA, USA		07/05/2022	Regular	0.00	511.25	85237
24908202034	Invoice	06/24/2022	GOLF-BEVERAGES-PRO SHOP		0.00	511.25	
001895	TERMINIX		07/05/2022	Regular	0.00	152.00	85238
421508162	Invoice	06/15/2022	GOLF-PEST CONTROL-PRO SHOP		0.00	152.00	
002812	THE HUNTINGTON NATIONAL BANK		07/05/2022	Regular	0.00	10,678.08	85239
7766058	Invoice	06/16/2022	GOLF-TORO TURF PACKAGE-MAINT		0.00	10,678.08	
001224	XCEL ENERGY-GAS		07/05/2022	Regular	0.00	228.42	85240
784557434	Invoice	06/20/2022	GOLF-GAS USAGE 5/19-6/20/22-PRO SHOP		0.00	228.42	
001225	YAMAHA MOTOR CORP		07/05/2022	Regular	0.00	10,798.08	85241
774788	Invoice	06/01/2022	GOLF-GOLF CARTS LEASE-PRO SHOP		0.00	10,798.08	

Bank Code Golf Course Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	75	42	0.00	199,798.94
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	75	**42**	**0.00**	**199,798.94**

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
Bank Code: Pooled Cash-Pooled Cash							
001293	AMAZON.COM		06/28/2022	Regular	0.00	201.66	71832
17T4-9CR4-X9D7	Invoice	06/15/2022	Amazon - Office Supplies		0.00	201.66	
000108	AUSMUS LAW FIRM PC		06/28/2022	Regular	0.00	13,770.00	71833
7590	Invoice	06/01/2022	GF-2/24-5/21/22 CITY ATTORNY-LEGAL		0.00	13,770.00	
002853	BUCKEYE CLEANING CENTER		06/28/2022	Regular	0.00	2,553.56	71834
287331	Invoice	06/16/2022	GF-JANITORIAL SUPPLIES-FAC		0.00	2,553.56	
000242	CIVICPLUS		06/28/2022	Regular	0.00	752.46	71835
228702	Invoice	06/21/2022	CivicPlus Annual Hosting DptHdr		0.00	752.46	
002651	COLORADO COMMUNITY MEDIA		06/28/2022	Regular	0.00	174.72	71836
59215	Invoice	06/17/2022	GF-PUBLIC NOTICES-CITY CL		0.00	174.72	
000306	COMCAST BUSINESS		06/28/2022	Regular	0.00	2,177.78	71837
147654847	Invoice	06/01/2022	GF-JUN22 INTERNET SERVICE		0.00	2,177.78	
000307	COMCAST CABLE COMM, LLC		06/28/2022	Regular	0.00	220.04	71838
0164533 JUL22	Invoice	06/13/2022	GF-JUL22 INTERNET/CABLE-PW SHOP		0.00	220.04	
003060	ELIDIA GALLEGOS		06/28/2022	Regular	0.00	570.00	71839
061622	Invoice	06/16/2022	CEM-OVER CHARGE OF CREMAINS OPENING...		0.00	570.00	
000445	EWING IRRIGATION PRODUCTS INC		06/28/2022	Regular	0.00	26.38	71840
17058285	Invoice	06/15/2022	GF-SPRINKLER HEADS-PARKS		0.00	26.38	
000455	FASTENAL COMPANY 01COFTL		06/28/2022	Regular	0.00	80.99	71841
COFTL186696	Invoice	06/14/2022	GF-PARTS-STREETS		0.00	80.00	
COFTL186801	Invoice	06/16/2022	GF-FASTENERS-PARKS		0.00	0.99	
000526	GERARDO CONCRETE		06/28/2022	Regular	0.00	41,637.00	71842
062222	Invoice	06/22/2022	CPR-PICKLEBALL COURTS SOD REPLACEMEN...		0.00	575.00	
062222-1	Invoice	06/22/2022	CPR-RR PARK PICKLEBALL COURTS COMM C...		0.00	41,062.00	
001930	HUMANA HEALTH PLAN INC		06/28/2022	Regular	0.00	87,288.01	71843
379450924	Invoice	07/01/2022	GF-HEALTH INSURANCE & EAP JUL22		0.00	87,288.01	
000735	LL JOHNSON DISTRIBUTING		06/28/2022	Regular	0.00	1,124.20	71844
1143034-01	Invoice	06/10/2022	GF-BUSHING-PARKS		0.00	8.53	
1144008-0	Invoice	06/17/2022	GF- STAT CONTROL/WIRE CONNECTORS-PA...		0.00	471.18	
8121872-00	Invoice	06/20/2022	GF-TBOS BT 4 STAT CONTROL-PARKS		0.00	644.49	
002957	MATIAS MARK PACHECO IV		06/28/2022	Regular	0.00	18.23	71845
L0080906274	Invoice	06/02/2022	GF-CDL FEES-ENGINEERING		0.00	18.23	
002782	MOUNTAIN WEST PRODUCTION GROUP		06/28/2022	Regular	0.00	2,660.00	71846
101247	Invoice	06/01/2022	GF-4TH OF JULY EVENT STAGE-COM EVENTS		0.00	2,660.00	
000865	OFFICE DEPOT		06/28/2022	Regular	0.00	372.91	71847
247934028001	Invoice	06/10/2022	GF-BATTERIES-ADMIN		0.00	53.78	
248187392001	Invoice	06/06/2022	GF-OFFICE SUPPLIES-FINANCE		0.00	319.13	
001943	PINNACOL ASSURANCE		06/28/2022	Regular	0.00	18,294.77	71848
20922650	Invoice	07/01/2022	GF-WORK COMP PAYMENT 6 OF 9		0.00	18,294.77	
000901	PLAINS EAST MECHANICAL SERVICES LLC		06/28/2022	Regular	0.00	1,444.90	71849
3431-1129	Invoice	06/21/2022	REC-RTU 3 REPAIR		0.00	1,444.90	
001035	STANDARD INSURANCE CO.		06/28/2022	Regular	0.00	5,557.98	71850
00 759761 0001 J...	Invoice	06/16/2022	LI, AD&D, LTD, STD Ins Prem		0.00	5,557.98	
002967	SYNERGETIC STAFFING LLC		06/28/2022	Regular	0.00	100.00	71851
21010874	Invoice	06/17/2022	GF-BACKGROUND CHECKS-HR		0.00	100.00	

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001101	TODD HODGES DESIGN, LLC		06/28/2022	Regular	0.00	6,502.50	71852
3431	Invoice	06/20/2022	GF-PLANNING SRVCS 6/6-6/19/22-PLANNING		0.00	6,502.50	
001104	TOSHIBA BUSINESS SOLUTIONS		06/28/2022	Regular	0.00	1,632.50	71853
2100080	Invoice	06/01/2022	GF-SCANNER MUSEUM BASEMENT-FINANCE		0.00	1,632.50	
001105	TOSHIBA FINANCIAL SERVICES		06/28/2022	Regular	0.00	2,042.90	71854
474563145	Invoice	06/07/2022	Copier Lease		0.00	2,042.90	
001126	TYLER TECHNOLOGIES		06/28/2022	Regular	0.00	10,636.95	71855
0225-383632	Invoice	06/21/2022	Tyler Tech - Hardware Annual Fees		0.00	210.74	
130-128506	Invoice	06/15/2022	RMS Annual Maintenance 6/1/2022-5/31/2...		0.00	10,426.21	
001135	UNION PACIFIC RAILROAD CO		06/28/2022	Regular	0.00	3,115.94	71856
320260941	Invoice	06/01/2022	GF-JUL22-JUN23 RR PARK LEASE-PARKS		0.00	3,115.94	
002084	UNITED SITE SERVICES		06/28/2022	Regular	0.00	236.35	71857
INV-00790370	Invoice	06/21/2022	GF-PORTABLE RESTROOM SERVICE-PARKS		0.00	131.65	
INV-00790399	Invoice	06/21/2022	GF-PORTABLE RESTROOM SERVICE-PARKS		0.00	104.70	
001147	USA BLUE BOOK		06/28/2022	Regular	0.00	771.02	71858
008928	Invoice	06/10/2022	UF-PURPLE PAINT-WELLS		0.00	771.02	
001963	WASTE CONNECTIONS OF COLO, INC		06/28/2022	Regular	0.00	1,508.60	71859
6221666V311	Invoice	06/01/2022	UF-MAY22 TRASH SERVICES-UB		0.00	284.62	
6221826V311	Invoice	06/01/2022	GF-MAY22 TRASH SERVICES-FAC		0.00	132.31	
6221827V311	Invoice	06/01/2022	GF-MAY22 TRASH SERVICES-PW		0.00	191.88	
6221828V311	Invoice	06/01/2022	CPR-MAY22 TRASH SERVICES-COM CTR		0.00	342.31	
6221829V311	Invoice	06/01/2022	CEM-MAY22 TRASH SERVICES		0.00	191.48	
6221830V311	Invoice	06/01/2022	GF-MAY22 TRASH SERVICES-PARKS		0.00	112.18	
6259991V311	Invoice	06/15/2022	GF-JUL22 TRASH SERVICES-PARKS		0.00	137.86	
6260447V311	Invoice	06/15/2022	CEM-JUL22 TRASH SERVICES		0.00	115.96	
000040	AFLAC		06/28/2022	Regular	0.00	2,218.18	71860
742920	Invoice	07/01/2022	GF-SUPP INS FOR JUN22-HR		0.00	2,218.18	
002941	AMERITAS LIFE INSURANCE CORP		06/28/2022	Regular	0.00	6,576.96	71861
010-57637-01 JUL...	Invoice	07/01/2022	GF-DENTAL FOR JUL22-HR		0.00	5,771.76	
010-57637-02 JUL...	Invoice	07/01/2022	GF-VISION FOR JUL22-HR		0.00	805.20	
000267	COLONIAL LIFE		06/28/2022	Regular	0.00	105.96	71862
78168200701313	Invoice	07/01/2022	GF-SUPP INS FOR JUL22-HR		0.00	105.96	
002990	ADAMS COUNTY CLERK OF COURTS		07/01/2022	Regular	0.00	287.18	71863
INV0001199	Invoice	07/01/2022	CASE 2021C038514		0.00	287.18	
001301	AAA AUTO PARTS INC		07/05/2022	Regular	0.00	329.06	71864
142326	Invoice	06/01/2022	GF-MOWER MAINTENANCE-STREETS		0.00	202.90	
143425	Invoice	06/10/2022	GF-HOSE FITTINGS-STREETS		0.00	62.84	
144033	Invoice	06/16/2022	GF-UNIT #10 PARTS-STREETS		0.00	63.32	
000031	ADAMSON POLICE PRODUCTS		07/05/2022	Regular	0.00	334.76	71865
INV379529	Invoice	06/20/2022	GF-UNIFORMS-PD		0.00	334.76	
000034	ADT SECURITY SYSTEM		07/05/2022	Regular	0.00	133.41	71866
50576495 JUL22	Invoice	06/01/2022	REC-JUL22 SECURITY MONITORING		0.00	133.41	
000044	AGFINITY INC		07/05/2022	Regular	0.00	480.00	71867
H69488	Invoice	06/13/2022	GF-WEED SPRAY-STREETS		0.00	480.00	
003063	AMANDA THIEMAN		07/05/2022	Regular	0.00	80.00	71868
2006910	Invoice	06/20/2022	REC-SWIM LESSON REFUND		0.00	80.00	
001820	BADGER METER		07/05/2022	Regular	0.00	3,090.30	71869
1512263	Invoice	06/22/2022	UF-ULTRASONIC POLYMER-W LINES		0.00	2,944.92	

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
80099947	Invoice	06/01/2022	UF-BEACON HOSTING-W LINES		0.00	145.38	
002835	BRANDING BY BRE		07/05/2022	Regular	0.00	2,750.00	71870
1112	Invoice	07/01/2022	GF-SOCIAL MEDIA MANAGEMENT-CITY ADM		0.00	2,750.00	
003000	BRENDAN REED		07/05/2022	Regular	0.00	4,030.00	71871
062222	Invoice	06/22/2022	Pickleball Court Fencing		0.00	4,030.00	
000169	BROADCAST MUSIC INC		07/05/2022	Regular	0.00	391.00	71872
43289857	Invoice	06/02/2022	REC-MUSIC LICENSE RENEWAL		0.00	391.00	
002294	CARLOS BARRON		07/05/2022	Regular	0.00	233.20	71873
062722	Invoice	06/27/2022	GF-PARKING/MEALS/TRAVEL REIMBURSEM...		0.00	112.69	
062722-1	Invoice	06/27/2022	GF-MILEAGE REIMBURSEMENT-LEGIS		0.00	120.51	
001506	CHRISTOPHER CROSS		07/05/2022	Regular	0.00	60.12	71874
062122	Invoice	06/21/2022	GF-LUNCH MEETING REIMBURSEMENT-CITY...		0.00	60.12	
000230	CINTAS FIRST AID & SAFETY		07/05/2022	Regular	0.00	522.70	71875
5112892303	Invoice	06/17/2022	REC-FIRST AID SUPPLIES		0.00	522.70	
000239	CITY OF FORT LUPTON		07/05/2022	Regular	0.00	100.00	71876
062422	Invoice	06/24/2022	GF-RESTITUTION 134456-1		0.00	100.00	
000244	CLAUD HANES		07/05/2022	Regular	0.00	303.27	71877
062722	Invoice	06/27/2022	GF-MILEAGE REIMBURSEMENT-LEGIS		0.00	193.05	
062722-1	Invoice	06/27/2022	GF-PARKING/MEALS REIMBURSEMENT-LEGIS		0.00	110.22	
000247	CLIFTONLARSONALLEN LLP		07/05/2022	Regular	0.00	27,960.00	71878
3324277	Invoice	06/27/2022	GF-2021 AUDIT FEES-FINANCE		0.00	27,960.00	
000268	COLORADO ANALYTICAL LAB		07/05/2022	Regular	0.00	48.00	71879
220606116	Invoice	06/07/2022	GF-WATER TESTING-W LINES		0.00	48.00	
000269	COLORADO ASPHALT SVCS		07/05/2022	Regular	0.00	1,739.10	71880
0060246	Invoice	06/01/2022	SSTX-COLD ASPHALT-STREETS		0.00	1,739.10	
000306	COMCAST BUSINESS		07/05/2022	Regular	0.00	2,075.59	71881
148662078	Invoice	06/15/2022	Comcast Acct 930000301		0.00	2,075.59	
000307	COMCAST CABLE COMM, LLC		07/05/2022	Regular	0.00	254.25	71882
0117309 JUL22	Invoice	06/14/2022	REC-CABLE/MUSIC		0.00	254.25	
001295	COMMERCIAL FITNESS SOLUTIONS INC		07/05/2022	Regular	0.00	5,809.00	71883
8654	Invoice	06/16/2022	Leg press machine		0.00	5,809.00	
001517	CORE&MAIN LP		07/05/2022	Regular	0.00	2,366.28	71884
Q886111	Invoice	06/01/2022	UF-METER SUPPLIES-W LINES		0.00	404.78	
R049453	Invoice	06/16/2022	UF-COPPER TUBE/FITTINGS-W LINES		0.00	1,961.50	
000410	E-470 PUBLIC HIGHWAY AUTHORITY		07/05/2022	Regular	0.00	6.65	71885
2072711033	Invoice	06/10/2022	UF-TOLL FEES-W LINES		0.00	6.65	
002733	ELIDIA SANDOVAL		07/05/2022	Regular	0.00	65.00	71886
2006911	Invoice	06/20/2022	REC-BASEBALL REFUND		0.00	65.00	
003065	ELSIE HOMYAK		07/05/2022	Regular	0.00	40.00	71887
2006912	Invoice	06/20/2022	REC-CASINO TRIP REFUND		0.00	40.00	
003040	ERICA ARELLANO		07/05/2022	Regular	0.00	105.00	71888
2006898	Invoice	06/10/2022	REC-SWIM LESSON REFUND		0.00	105.00	
000442	ESRI INC		07/05/2022	Regular	0.00	15,000.00	71889
94192671	Invoice	06/01/2022	Population of 0 to 15,000 Small Local Gover...		0.00	15,000.00	
000454	FARIS MACHINERY COMPANY		07/05/2022	Regular	0.00	376.80	71890

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
C68367	Invoice	06/21/2022	GF-PROXIMITY SWITCH-STREETS		0.00	376.80	
002181	FRP APPAREL		07/05/2022	Regular	0.00	484.75	71891
9104	Invoice	06/13/2022	REC-CAMP SHIRTS		0.00	484.75	
000526	GERARDO CONCRETE		07/05/2022	Regular	0.00	12,352.00	71892
061222	Invoice	06/22/2022	Concrete Slab for Fitness Court		0.00	12,352.00	
001881	HALO BRANDED SOLUTIONS INC		07/05/2022	Regular	0.00	1,320.52	71893
2022000082090	Invoice	06/02/2022	GF-UNIFORMS-PARKS		0.00	1,320.52	
002448	HIGH PLAINS NEW HOLLAND		07/05/2022	Regular	0.00	821.65	71894
I16144	Invoice	06/16/2022	GF-BLADE KIT/WING SHOE-STREETS		0.00	821.65	
001851	IMA, INC		07/05/2022	Regular	0.00	100.00	71895
147399	Invoice	06/28/2022	UF-ROW BOND TERMINAL STORAGE RESERV...		0.00	100.00	
000597	INSIGHT PUBLIC SECTOR INC		07/05/2022	Regular	0.00	2,837.66	71896
1100954619	Invoice	06/27/2022	AutoCad licensing Renewals for Public Works		0.00	2,837.66	
003061	JACQUELINE CHAVEZ		07/05/2022	Regular	0.00	121.68	71897
062122	Invoice	06/21/2022	GF-MILEAGE REIMBURSEMENT-HR		0.00	121.68	
003062	JACQUELYNN ANN VAN WATERMEULEN		07/05/2022	Regular	0.00	66.93	71898
062422	Invoice	06/24/2022	GF-RESTITUTION E0019938-1		0.00	66.93	
001786	JOHNSON CONTROLS SECURITY SOLUTIONS		07/05/2022	Regular	0.00	196.93	71899
37507228	Invoice	06/11/2022	CPR-SECURITY-MUSEUM		0.00	196.93	
000713	LEANN PERINO		07/05/2022	Regular	0.00	72.54	71900
062822	Invoice	06/28/2022	GF-MILEAGE REIMBURSEMENT/NISP-FINAN...		0.00	72.54	
000718	LEVI CONTRACTORS, INC		07/05/2022	Regular	0.00	1,500.00	71901
062922	Invoice	06/29/2022	UF-HYDRANT METER DEPOSIT REFUND-UB		0.00	1,500.00	
000735	LL JOHNSON DISTRIBUTING		07/05/2022	Regular	0.00	94.99	71902
5244022-00	Invoice	06/22/2022	GF-LID-PARKS		0.00	94.99	
003066	MELISSA NELSON		07/05/2022	Regular	0.00	1,242.00	71903
2006904	Invoice	06/13/2022	REC-CAMP REFUND		0.00	1,242.00	
000841	NEWMAN TRAFFIC SIGNS		07/05/2022	Regular	0.00	2,185.84	71904
TRFINV039814	Invoice	06/01/2022	GF-SIGNS-STREETS		0.00	2,185.84	
000859	NORTHWEST PARKWAY LLC		07/05/2022	Regular	0.00	12.00	71905
12489944	Invoice	06/01/2022	GF-TOLL FEES-STREETS		0.00	12.00	
000862	O'REILLY AUTO PARTS		07/05/2022	Regular	0.00	195.27	71906
4489-383171	Invoice	06/09/2022	GF-GOVERNOR-STREETS		0.00	21.72	
4489-384059	Invoice	06/13/2022	GF-BRAKE CHAMBER-STREETS		0.00	135.56	
4489-386516	Invoice	06/23/2022	GF-FLOOR MATS-PARKS		0.00	37.99	
001566	PREMIER EARTHWORKS & INFRASTRUCTURE INC		07/05/2022	Regular	0.00	1,500.00	71907
062922	Invoice	06/29/2022	UF-HYDRANT METER DEPOSIT REFUND-UB		0.00	1,500.00	
001105	TOSHIBA FINANCIAL SERVICES		07/05/2022	Regular	0.00	283.52	71908
475312898	Invoice	06/17/2022	GF-BASEMENT COPIER LEASE/OVERAGE-IT		0.00	283.52	
002084	UNITED SITE SERVICES		07/05/2022	Regular	0.00	1,208.46	71909
INV-00758875	Invoice	06/07/2022	CPR-PORTABLE RESTROOM SERVICE-COM C...		0.00	1,208.46	
001147	USA BLUE BOOK		07/05/2022	Regular	0.00	873.94	71910
975986	Invoice	06/01/2022	UF-GREEN/BLUE WIRE STAFF-S LINES		0.00	873.94	
001174	WAGNER EQUIPMENT CO.		07/05/2022	Regular	0.00	135.00	71911
P00C2469786	Invoice	06/01/2022	GF-PARTS-STREETS		0.00	135.00	

Vendor Number / Payable #	Vendor Name / Payable Type	Post Date	Payment Date / Payable Description	Payment Type	Discount Amount / Discount Amount	Payment Amount / Payable Amount	Number
001199	WELD COUNTY PUBLIC SAFETY IT		07/05/2022	Regular	0.00	135.62	71912
FORTLUPTONPD-0...	Invoice	06/23/2022	GF-CENTRAL SQUARE TOKEN-PD		0.00	135.62	
001203	WELD COUNTY SHERIFF'S OFFICE		07/05/2022	Regular	0.00	29.71	71913
1830 052022	Invoice	06/01/2022	GF-JAIL FEES-COURT		0.00	29.71	
002115	WILLIAMS EQUIPMENT LLC		07/05/2022	Regular	0.00	1,467.84	71914
21991	Invoice	06/01/2022	UF-EQUIPMENT REPAIRS-S LINES		0.00	1,467.84	
000119	BANK OF COLORADO		07/01/2022	Bank Draft	0.00	6,129.54	DFT0001976
INV0001196	Invoice	07/01/2022	HSA DISTRIBUTION		0.00	6,129.54	
000119	BANK OF COLORADO		07/01/2022	Bank Draft	0.00	675.83	DFT0001977
INV0001197	Invoice	07/01/2022	HSA DISTRIBUTION		0.00	675.83	
001416	VALIC_1		07/01/2022	Bank Draft	0.00	33,113.24	DFT0001978
INV0001198	Invoice	07/01/2022	VALIC - 457(b) $ Contributions		0.00	33,113.24	
001265	IRS		07/01/2022	Bank Draft	0.00	62,076.66	DFT0001979
INV0001200	Invoice	07/01/2022	Federal Withholding		0.00	62,076.66	
001418	CO DEPARTMENT OF REVENUE		07/01/2022	Bank Draft	0.00	11,574.00	DFT0001980
INV0001201	Invoice	07/01/2022	CO Withholding		0.00	11,574.00	

Bank Code Pooled Cash Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	106	83	0.00	312,582.97
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	5	5	0.00	113,569.27
EFT's	0	0	0.00	0.00
	111	**88**	**0.00**	**426,152.24**

All Bank Codes Check Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	181	125	0.00	512,381.91
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	5	5	0.00	113,569.27
EFT's	0	0	0.00	0.00
	186	**130**	**0.00**	**625,951.18**

Fund Summary

Fund	Name	Period	Amount
600	GOLF ENTERPRISE FUND	6/2022	50,254.60
600	GOLF ENTERPRISE FUND	7/2022	149,544.34
999	POOLED CASH/CONSOLIDATED CASH	6/2022	214,373.45
999	POOLED CASH/CONSOLIDATED CASH	7/2022	211,778.79
			625,951.18

RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
June 20, 2022

The City Council of the City of Fort Lupton met in a regular session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the City Council, on Tuesday, June 20, 2022. Mayor Pro-Tem Chris Ceretto called the meeting to order at 6:00 p.m. and invited everyone to join him in the Pledge of Allegiance.

ROLL CALL

Mari Peña, City Clerk, called the roll. Those present were Mayor Pro-Tem Chris Ceretto, Councilmembers Bruce Fitzgerald, Valerie Blackston, Carlos Barron and Claud Hanes.

Mayor Stieber-Hubbard and Councilmember David Crespin participated remotely through GoToMeeting.

Also present were City Administrator, Chris Cross, City Clerk, Mari Peña, City Attorney, Andy Ausmus, Public Works Director, Roy Vestal and Planning Director, Todd Hodges.

PERSONS TO ADDRESS COUNCIL

Melia Inge, who is a member on the library board, addressed the Council as a private citizen and not as a members of the library. Ms. Inge provided the Council with a handout of the library structure. The library is the only library in the state that is a joint library between the City of Fort Lupton and the Weld Re-8 School District as well as a members of the High Plains Library District. With the construction of the new library building, Ms. Inge asked the Council to allow the library members in Intergovernmental Agreement (IGA) discussions concerning the library.

APPROVAL OF AGENDA

Staff requested that the Executive Session be moved before the Adjournment. It was moved by Valerie Blackston and seconded by Bruce Fitzgerald to approve the agenda as amended by moving the Executive Session after Future Events. Motion passed unanimously on voice vote.

REVIEW OF ACCOUNTS PAYABLES

Council reviewed the June 20, 2022, payables; there were no questions or comments from the Mayor or Council.

CONSENT AGENDA

It was moved by Zo Stieber-Hubbard and seconded by Bruce Fitzgerald to approve the Consent Agenda as presented with the following item:

- June 7, 2022 City Council Meeting Minutes
- June 7, 2022 Marijuana Licensing Authority Meeting Minutes
- Approving Resolution 2022R037 APPOINTING THE LIST OF CANDIDATES (EXHIBIT "A") TO

THE AD HOC COMMITTEE FOR THE RECREATION CENTER EXPANSION (AM 2022-097)

- Approving Resolution 2022R038 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FORT LUPTON APPOINTING DIRECTORS TO THE BOARD OF DIRECTORS OF NORTH LAND INDUSTRIAL NORTH METROPOLITAN DISTRICT NOS. 1 & 2 (AM 2022-098)
- Authorize the City Administrator to Accept a Scope of Work from Dig Deep to Provide Grants Related to Technical Assistance Services for the Community Park Inclusivity Project (AM 2022-099)
- Approving Resolution 2022R39 RATIFYING THE APPOINTMENT OF JIMMY DOMINGUEZ BY THE MAYOR TO THE PLANNING COMMISSION AS A REGULAR MEMBER FOR A THREE-YEAR TERM BEGINNING JUNE 20, 2022 AND ENDING JUNE 20, 2025 (AM 2022-100)
- Approving Discounts for Committee Volunteers for ½ Price Entry Fee at the Fort Lupton Recreation Center, 20% off a Monthly or Annual Pass to the Committee Members and his/her Dependents and 50% off Green Fees at Coyote Creek Golf Course (AM 2022-104)
- Approving the Clarification of City Council "Other Meetings" Designations in Ordinance 2013-962; Where "Other Meetings" Shall Mean Any Meeting Where an Agenda has Been Posted and Where Three (3) Elected Officials are Participating (AM 2022-105)

Motion passed unanimously on roll call vote.

PUBLIC HEARINGS

Memo to Request Continuance of the Champion Xpress Car Wash Special Use Permit Public Hearing to July 5, 2022

Staff is requesting a continuance of the public hearing for The Flats at Lupton Village Change of Zone to July 5, 2022. This request is to allow time for the Planning Commission public hearing for this project to take place. The Planning Commission public hearing was initially scheduled for June 9, 2022. However, due to lack of quorum, the June 9th Planning Commission meeting was cancelled. The Planning Commission public hearing for this project will be held on June 23, 2022.

It was moved by Bruce Fitzgerald and seconded by Valerie Blackston to approve the continuance the Champion Xpress Car Wash Special Use Permit Public Hearing to July 5, 2022. Motion passed unanimously on voice vote.

Memo to Request Continuance of The Flats at Lupton Village Change of Zone Public Hearing to July 5, 2022

Staff is requesting a continuance of the public hearing for The Flats at Lupton Village Change of Zone to July 5, 2022. This request is to allow time for the Planning Commission public hearing for this project to take place. The Planning Commission public hearing was initially scheduled for June 9, 2022. However, due to lack of quorum, the June 9th Planning Commission meeting was cancelled. The Planning Commission public hearing for this project will be held on June 23, 2022.

It was moved by Carlos Barron and seconded by Claud Hanes to approve the continuance of The Flats at Lupton Village Change of Zone Public Hearing to July 5, 2022. Motion passed unanimously on voice vote.

Memo to Request Continuance of The Flats at Lupton Village PUD Preliminary Plat and PUD Plan Public Hearing to July 5, 2022

Staff is requesting a continuance of the public hearing for The Flats at Lupton Village Change of Zone to July 5, 2022. This request is to allow time for the Planning Commission public hearing for this project to take place. The Planning Commission public hearing was initially scheduled for June 9, 2022. However, due to lack of quorum, the June 9th Planning Commission meeting was cancelled. The Planning Commission public hearing for this project will be held on June 23, 2022.

It was moved by Zo Stieber-Hubbard and seconded by Claud Hanes to approve the continuance of The Flats at Lupton Village PUD Preliminary Plat and PUD Plan Public Hearing to July 5, 2022. Motion passed unanimously on voice vote.

ACTION MEMORANDUM

Memo to Request Continuance of The Flats at Lupton Village PUD Final Plat and PUD Plan Public Meeting to July 5, 2022

Staff is requesting a continuance of the public hearing for The Flats at Lupton Village Change of Zone to July 5, 2022. This request is to allow time for the Planning Commission public hearing for this project to take place. The Planning Commission public hearing was initially scheduled for June 9, 2022. However, due to lack of quorum, the June 9th Planning Commission meeting was cancelled. The Planning Commission public hearing for this project will be held on June 23, 2022.

It was moved by Bruce Fitzgerald and seconded by Valerie Blackston to approve the continuance of The Flats at Lupton Village PUD Final Plat and PUD Plan Public Meeting to July 5, 2022. Motion passed unanimously on voice vote.

AM 2022-101 Approving the SCADA Computer Upgrades at the Waste Water Treatment Plant (WWTP) for an Amount not to Exceed $35,892 allocated from Waste Water Fund

Staff budgeted $35,000 in the 2022 Capital Improvements Budget to upgrade the SCADA computer at the Wastewater Treatment Plant. The current SCADA computer is from 2014 and is no longer supported for software updates. A cooling fan has been making noise inside the computer. The current SCADA software has not been updated since 2014 either. This project will update the computer to a server that can serve as a backup to the Water Plant SCADA computer also. All SCADA software will be updated and relicensed with the project. Browns Hill

Engineering is the SCADA integration company for the city. They know the system and have the backup files for the system. They performed a similar update on the Water Plant SCADA computer system in 2021. Staff anticipates the Project being complete by October 2022.

It was moved by Claud Hanes and seconded by Bruce Fitzgerald to approve the SCADA computer upgrades at the waste water treatment plant ("WWTP") for an amount not to exceed $35,892 allocated from the Waste Water Fund. Motion passed unanimously on roll call vote.

AM 2022-102 Authorize Work Order for Jacobs (OMI) for CH2M Hill Engineers, Inc. for Maximum Not to Exceed $499,955.00 for Professional Engineering Services for Design and Permitting of the Water Treatment Plant (WTP) Expansion Project

CH2M HILL Engineers, Inc. (Jacobs Engineering) is the current provider of engineering services for the City Wastewater Treatment Plant, Water Treatment Plant, and Distribution, Collection System repairs, maintenance and operational projects for the City of Fort Lupton. Under the Master Agreement, Appendix J, between the City and CH2M Hill.

The City is in need of professional assistance in developing design drawings, construction management and permitting for the expansion of the City's WTP. The WTP has experienced peak flows in the past 2 summers that are coming close to capacity.

The following are the Tasks that will be performed by CH2M Hill (Jacobs Engineering). Detail of Tasks are on WORK ORDER- CH-2020-4 attached.
Task 1 – Design phase Project Management
Task 2 - Colorado Department of Health and Environment Permitting
Task 3 - 6 Design 10%, 30%, 90% and 100%
Task 7 - Early procurement / Design packages
Task 8 - Bidding assistance
Task 9 - Office Construction Assistance
Task 10 - Onsite Construction Assistance

It was moved by Bruce Fitzgerald and seconded by Carlos Barron to approve the Work Order for Jacobs (OMI) for CH2M Hill Engineers, Inc. for maximum not to exceed $499,955.00 for Professional Engineering Services for design and permitting of the Water Treatment Plant (WTP) Expansion Project. Motion passed unanimously on roll call vote.

AM 2022-103 Splash Park Full Site Design & Construction Drawings for an Amount Not to Exceed $99,364.40 Allocated from the General Fund, Parks Department's Capital Expenditure

The City of Fort Lupton desires to provide the community with an outdoor splash park. This is the second step in achieving this goal. A master plan was completed earlier and this is the next step in the process. A complete site plan with construction drawings will allow the city to be able to bid out the project and get more solid cost estimates. The Recreation Department called for a

request for qualifications and bid proposal for this project. The evaluation of the proposals was done by the City Engineer and Recreation Center staff. It was the consensuses of the group that DHM Design had put the best proposal and qualifications together. They specialize in Splash Park Design. When completed this plan will include all of the documents needed to bid out the splash pad, pumps, playgrounds, walkways, shelters, and restroom facilities. DHM Design was very complete in their proposal.

The proposals were ranked as follows:

DHM Design	first	$99,364.40
Confluence	second	$80,485.00
Goodbee & Associates	third	$66,200.00

It was moved by Bruce Fitzgerald and seconded by Carlos Barron to approve Splash Park full site design and construction drawings for an amount not to exceed $99,364.40 allocated from the General Fund, Parks Department's Capital Expenditure. Motion passed unanimously on roll call vote.

STAFF

Chris Cross indicated that the ground breaking for the library site was earlier today.

MAYOR/COUNCIL REPORTS

There were no reports from the Mayor or Council.

FUTURE CITY EVENTS

June 21, 2022	City Council Meeting Cancelled
June 28, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 2, 2022	Independence Day Festival, Fireworks at Dusk
July 4, 2022	City Offices Closed in Observance of 4th of July Holiday
July 5, 2022	City Council Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 8-9, 2022	Citywide Yard Sales
July 12, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 19, 2022	City Council Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 26, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.

Executive Session

It was moved by Carlos Barron and seconded by Valerie Blackston to move into Executive Session at 6:22 p.m. "To determine positions relative to matters that may be subject to negotiations, develop a strategy for negotiations, and/or instruct negotiators, pursuant to C.R.S. § 24-6-402(4)(e)." Intergovernmental Agreement for New Facility. Motion passed on voice vote. The following moved into Executive Session Mayor Pro Tem Chris Ceretto, Councilmembers Valerie Blackston, Claud Hanes, Carlos Barron, Bruce Fitzgerald, City Attorney Andy Ausmus, City Administrator Chris Cross and Finance Director Leann Perino. Mayor Zo Stieber-Hubbard and Councilmember David Crespin participated remotely.

The Executive Session ended at 7:37 p.m. and the Special Meeting reconvened.

ADJOURNMENT

The meeting adjourned at 7:37 p.m.

Submitted by,

_____
Maricela Peña, City Clerk

Approved by City Council

_____
Zo Stieber-Hubbard, Mayor

ORDINANCE NO. 2022-1144

INTRODUCED BY: CHRIS CERETTO

AN ORDINANCE OF THE CITY OF FORT LUPTON, COLORADO, AMENDING CHAPTER 5, ARTICLE VI, SECTION 5-185. – PROCESS; CHAPTER 15, ARTICLE I, SECTION 15-7 - CONCEPT LAND USE PLAN STANDARDS. AND CHAPTER 18, ARTICLE I, SECTION 18-9 - REQUIREMENTS FOR SMALL WIND ENERGY SYSTEMS OF THE FORT LUPTON MUNICIPAL CODE

INTRODUCED, READ, AND PASSED ON FIRST READING, AND ORDERED PUBLISHED this 7th day of June 2022.

PUBLISHED in the Fort Lupton Press the 16th day of June 2022.

FINALLY READ BY TITLE ONLY, PASSED AND ORDERED FINALLY PUBLISHED by title only this 5th day of July 2022.

PUBLISHED BY TITLE ONLY the 14th day of July 2022.

EFFECTIVE (after publication) the 13th day of August 2022.

CITY OF FORT LUPTON, COLORADO

_____

Zo Stieber-Huabbard, Mayor

ATTEST:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

City Council Meeting
Date: July 5, 2022
Staff: Maria Lancto - Planner I

AM 2022-106
Consent Agenda☐
Action Memorandum☐
Public Hearing☒

SUBJECT FOR DISCUSSION

A Resolution Approving 7B Building & Development and Baseline Engineering Request for a Special Use Permit for an Auto Wash Facility for a Property Located North and Adjacent 1st Street / Highway 52 and Approximately 0.03 Miles East of Copper Place.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

7B Building & Development and Baseline Engineering (the "Applicants") have submitted a request for a special use permit for an auto wash facility for a property located north and adjacent 1st Street / Highway 52 and approximately 0.03 miles east of Copper Place. The facility will consist of a 4,360 square foot tunnel car wash facility. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available.

The Property is located within the C-1 General Commercial Zone District. Auto wash facilities are specifically listed as requiring a special use permit in the C-1 zone district. The area is designated as General Commercial on the Future Land Use Map. Additional information on this application is included in the materials attached to this Action Memorandum.

Section 16-7(d) states that the City shall use the following criteria to evaluate the Applicant's request:

1. The special use shall satisfy all applicable provisions of the Code and shall be consistent with the intent of the Comprehensive Plan.

   Staff Comment: The Applicant has been working with City staff to comply with applicable provisions of the Code, and has submitted all required special use permit application materials as required.

2. The special use shall not substantially alter the character of the district or the neighborhood.

   Staff Comment: The Property is surrounded by commercial land uses to the north, south and west. Within the Vincent Village subdivision, there are other auto-oriented uses including a gas station and Auto-Zone.

3. The special use will result in efficient on- and off-site traffic circulation, and will not have an adverse impact on adjacent uses or present hazardous conditions for pedestrians or vehicles.

   Staff Comment: A traffic memo was submitted for review as part of the application and was accepted by the Public Works Director. Conditions of approval will address any traffic concerns in the event that traffic numbers increase from what was represented in the application.

4. Adequate conditions of approval shall address: traffic; activity levels; light; noise; odor; building type, style and scale; hours of operation; dust; erosion and other performance issues identified through the public hearing process.

   Staff Comment: These items are addressed in the code, as well as addressed as conditions of approval on the proposed resolution.

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

5. The term of the special use permit and any reporting and inspection requirements as might be reasonably necessary to ensure compliance with conditions of approval may also be specified by the City Council.

   Staff Comment: A special use permit in non-transferable without prior approval by the City. The Planning Department staff will ensure compliance with other conditions of approval, either as listed on the proposed Resolution or as added by City Council.

FINANCIAL CONSIDERATIONS

The Applicant has paid all applicable land use application fees and is covering ongoing review expenses.

LEGAL/POLITICAL CONSIDERATIONS

The proposed use is specifically listed as requiring a special use permit in the C-1 General Commercial Zone District. The intent of the special use permit is to provide flexibility, to provide a means for setting performance standards for individual land uses and to help diversify uses within a zoning district. A special use review requires a public hearing before Planning Commission and City Council.

All notification requirements were met, including posting notice of the hearings on the property at least 15 days prior to this public hearing, mailing notice to property owners within 100 feet of the site, and publishing notice of the hearing at least 15 days prior to the hearing.

ALTERNATIVES/OPTIONS

The City Council has the following three options for each request:

a) Approve the request;
b) Deny the request; or
c) Refer the request back to Planning Commission for further study.

STAFF RECOMMENDATIONS

Staff recommends conditional approval of the Champion Xpress Car Wash Special Use Permit for an auto wash facility. The conditions are listed in the proposed Resolution provided to Council.

Attachments:

a. Proposed Resolution
b. Planning Commission Resolution
c. Planning Commission Minutes
d. Staff Report
e. Land Use Application
f. Special Use Permit Application
g. Project Description
h. Special Use Permit Map
i. Renderings and Building Materials
j. Drainage Letter
k. Trip Generation Memorandum
l. United Power Will Serve Letter
m. Referral Responses
n. Legal Notifications

RESOLUTION NO. 2022Rxxx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING A SPECIAL USE PERMIT FOR AN AUTO WASH FACILITY, KNOWN AS THE CHAMPION XPRESS CAR WASH SPECIAL USE PERMIT, ON A PROPERTY LOCATED IN THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing the application from 7B Building & Development and Baseline Engineering for a special use permit for an auto wash facility; and

WHEREAS, after review of the application and supporting information, and consideration of staff comments, applicant's presentation and any public input, the Planning Commission recommended approval, with conditions, of the special use permit application; and

WHEREAS, the City Council held a public hearing to consider and review the request for the special use permit on July 5, 2022; and

WHEREAS, after review of the application and supporting information, the City Council finds that the special use permit conforms to Colorado Revised Statutes and City codes and policies therein, and

WHEREAS, all legal requirements for the public hearing have been met, including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site; and

NOW THEREFORE BE IT RESOLVED that the Fort Lupton City Council reviewed the plans and supporting documentation, referral comments, as well as any citizen input in response to this application. Based upon the review of applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Zoning Regulations, and analysis of referral comments and the facts presented on this date, the City Council hereby approves the Champion Xpress Car Wash Special Use Permit for an auto wash facility, with the following conditions:

I. Prior to recording the special use permit map:

A. The title of the special use permit map shall include the Project No.: LUP2022-0007 & Plan No. SUP2022-0001.

B. Any redline comments provided by City staff shall be made to the special use permit map.

C. Applicant shall submit written evidence that the comments from the Public Works Director have been adequately addressed.

D. Applicant shall submit written acknowledgement of the comments from the Fort Lupton Fire Protection District.

E. Applicant shall provide written acknowledgement of the comments from United Power.

F. Applicant shall provide written evidence that the comments from Public Service Company of Colorado dba Xcel Energy have been adequately addressed and all approvals have been obtained for use of the 75' Public Service Easement.

G. Applicant shall dedicate by separate document a 20' water line easement per the comments for the Public Works Director.

H. Applicant shall submit modified photometric plan to meet the intent of the Commercial and Industrial Design Standards.

I. Applicant shall submit to the City an updated landscape plan including an updated signage plan for a ground sign (monument style) for review and approval. Pole signs have not been allowed in this development.

J. The following notes shall be placed on the site plan:

1. The property shall be maintained to the curb, or roadway if no curb exists.

2. Dead and dying landscape material shall be replaced at the earliest reasonable date.

3. Lighting on the site shall be maintained so that light is directed downward and shall no spill onto adjacent properties.

4. Any proposed change of ownership shall be submitted to the City for review and approval prior to the ownership transfer.

5. The City reserves the right to reevaluate traffic impact in the future if there is an increase from what was represented to the City in evaluating the special use permit.

II. Prior to release of building permit:

A. One set of Mylars of the special use permit map shall be submitted for recording with the Weld County Clerk & Recorder.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL THIS 5TH DAY OF JULY 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RESOLUTION NO. P2022-014

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF A SPECIAL USE PERMIT FOR AN AUTO WASH FACILITY, KNOWN AS THE CHAMPION XPRESS CAR WASH SPECIAL USE PERMIT, ON A PROPERTY LOCATED IN THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing the application from 7B Building & Development and Baseline Engineering for a special use permit for an auto wash facility; and

WHEREAS, after review of the application and supporting information, the Planning Commission finds that the special use permit conforms to Colorado Revised Statutes and City codes and policies therein; and

WHEREAS, all legal requirements for the public hearing have been met including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of the Champion Xpress Car Wash Special Use Permit for an auto wash facility, conditional upon the following:

I. Prior to recording the special use permit map:

A. The title of the special use permit map shall include the Project No.: LUP2022-0007 & Plan No. SUP2022-0001.

B. Any redline comments provided by City staff shall be made to the special use permit map.

C. Applicant shall submit written evidence that the comments from the Public Works Director have been adequately addressed.

D. Applicant shall submit written acknowledgement of the comments from the Fort Lupton Fire Protection District.

E. Applicant shall provide written acknowledgement of the comments from United Power.

F. Applicant shall provide written evidence that the comments from Public Service Company of Colorado dba Xcel Energy have been adequately addressed and all approvals have been obtained for use of the 75' Public Service Easement.

G. Applicant shall dedicate by separate document a 20' water line easement per the comments for the Public Works Director.

H. Applicant shall submit modified photometric plan to meet the intent of the Commercial and Industrial Design Standards.

I. Applicant shall submit to the City an updated landscape plan including an updated signage plan for a ground sign (monument style) for review and approval. Pole signs have not been allowed in this development.

G. The following notes shall be placed on the site plan:

1. The property shall be maintained to the curb, or roadway if no curb exists.

2. Dead and dying landscape material shall be replaced at the earliest reasonable date.

3. Lighting on the site shall be maintained so that light is directed downward and shall no spill onto adjacent properties.

4. Any proposed change of ownership shall be submitted to the City for review and approval prior to the ownership transfer.

5. The City reserves the right to reevaluate traffic impact in the future if there is an increase from what was represented to the City in evaluating the special use permit.

II. Prior to release of building permit:

A. One set of Mylars of the special use permit map shall be submitted for recording with the Weld County Clerk & Recorder.

DONE THIS 23rd DAY OF JUNE, 2022, BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

Chairman

ATTEST:



Planning Director

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

CHAMPION XPRESS CAR WASH SPECIAL USE PERMIT STAFF REPORT
PROJECT NO. LUP2022-0007 & PLAN NO. SUP2022-0001

PROJECT DESCRIPTION

Project No.: LUP2022-0007 / Plan No.: SUP2022-0001

Project Name: Champion Xpress Car Wash Special Use Permit

Owner's Name: Vincent Village, LLC

Representative: Tez Hawkins with Baseline Engineering; 7B Building & Development ("Applicants")

Location of Request:

The site is situated north and adjacent to 1st Street / Highway 52 and approximately 0.03 miles east of Copper Place (Parcel No. 147105252002) (the "Property"). The Property is located in the Northwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., County of Weld, State of Colorado.



The Property is directly surrounded by Commercial zoning to the north, south and west and Parks zoning to the east. Surrounding uses include the Coyote Creek Golf Course, the Safeway complex, and vacant commercial land. A dental office has also recently been approved adjacent to this property.

Nature of Request:

The Applicant has submitted a request for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas.

Site Size: 0.967 acres, more or less.

Zone District: C-1 General Commercial.

Proposed Use: Auto Wash Facility.

Existing Use: The Property is currently vacant.

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado or virtually via GoToMeeting.

Staff Recommendation: Approval with conditions, as listed in the proposed resolution.

APPLICATION PROCESS

The Applicant is requesting approval of a special use permit. A special use permit application is processed under Section 16-7 of the Code.

After required public notice of the special use permit application, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the special use permit. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The City Council shall then conduct a public hearing and evaluate the application, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve, conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Zoning Regulations require published notice of the hearings at least fifteen (15) days prior to the hearings. The Planning Commission and City Council hearings was published in the Fort Lupton Press on May 19, 2022.

Notice of the public hearings were posted at least fifteen (15) days prior to the hearings, as required by the Zoning Regulations.

Notice was mailed to neighbors within one-hundred (100) feet of the Property on May 25, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

The property is zoned C-1 General Commercial. Auto wash facilities are specifically listed as requiring a special use permit in the C-1 zone district.

A special use review requires a public hearing before Planning Commission and City Council. The intent of the special use permit is to provide flexibility, to provide a means for setting performance standards for individual land uses and to help diversify uses within a zoning district.

Section 16-7(d) states that the City shall use the following criteria to evaluate the Applicant's request:

1. The special use shall satisfy all applicable provisions of the Code and shall be consistent with the intent of the Comprehensive Plan.

   Staff Comment: The Applicant has been working with City staff to comply with applicable provisions of the Code, and has submitted all required special use permit application materials as required.

2. The special use shall not substantially alter the character of the district or the neighborhood.

   Staff Comment: The Property is surrounded by commercial land uses to the north, south and west. Within the Vincent Village subdivision, there are other auto-oriented uses including a gas station and Auto-Zone.

3. The special use will result in efficient on- and off-site traffic circulation, and will not have an adverse impact on adjacent uses or present hazardous conditions for pedestrians or vehicles.

   Staff Comment: A traffic memo was submitted for review as part of the application and was accepted by the Public Works Director. Conditions of approval will address any traffic concerns in the event that traffic numbers increase from what was represented in the application.

4. Adequate conditions of approval shall address: traffic; activity levels; light; noise; odor; building type, style and scale; hours of operation; dust; erosion and other performance issues identified through the public hearing process.

   Staff Comment: These items are addressed in the code, as well as addressed as conditions of approval on the proposed resolution.

5. The term of the special use permit and any reporting and inspection requirements as might be reasonably necessary to ensure compliance with conditions of approval may also be specified by the City Council.

   Staff Comment: A special use permit in non-transferable without prior approval by the City. The Planning Department staff will ensure compliance with other conditions of approval, either as listed on the proposed Resolution or as added by City Council.

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The Fort Lupton Comprehensive Plan designates this area for Commercial General land uses. This designation allows for commercial businesses that offer residents basic goods and services. This supports a range of development styles, including stand-alone businesses on smaller properties as well as commercial shopping centers with multiple tenants. Primarily located along the City's major corridors, expansion of general commercial will offer residents greater shopping options within Fort Lupton and contribute to increased local commerce. In addition to commercial, these areas can include small office buildings, medical practices, and public and semi-public uses.

The proposed use substantively conforms to the designated land use type and zoning.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Building Inspector	OMI	City Attorney
GIS Specialist	Police Chief	Public Works Director
Fort Lupton Fire Protection District	Colorado Parks and Wildlife	United Power
Comcast	CenturyLink	Xcel Energy
Postmaster	Fulton Ditch Company	Weld County Dept. of Public Health & Env.
Recreation Manager	NCWCD	CDOT
Golf Course Manager	Buildings / Grounds Manager	

RECOMMENDATION

Staff recommends conditional approval of the Champion Xpress Car Wash Special Use Permit.
Conditions are listed on the proposed Resolution provided to Planning Commission.

For more information on this development, please refer to the Planning Commission packet provided. Additional documents are available for review at the Fort Lupton City Hall.

Clear Form

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: Vincent Village, LLC/7B Building & Development

Company: 7B Building & Development

Phone: 512.608.1904 Email: alan@7bdev.com

Address: 13105 Dover Ave, Lubbock, TX 79424

Preferred method of contact? Email: ☑ Phone: ☑ Mail: ☐

2) Representative Name: Tez Hawkins

Company: Baseline Engineering

Phone: 970-688-2175 Email: tez.hawkins@baselinecorp.com

Address: 112 N. RUBEY DRIVE, #210 GOLDEN, CO 80403

Preferred method of contact? Email: ☑ Phone: ☑ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Alan Kirchoff

Billing Company: 7B Building & Development

Phone: 512.608.1904 Email: alan@7bdev.com

Address: 13105 Dover Ave, Lubbock, TX 79424

B. SITE DESCRIPTION

Site Address: 120 Copper Place

Parcel Number: 147105249007

Existing Zone Classification: C-1 Proposed Zone Classification: C-1

Water Type: Municipal Name: City of Fort Lupton

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☐ PUD Plan (Preliminary & Final)
☐ Preliminary Plat	☑ Special Use Permit	☐ Variance
☐ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☐ Change of Zone	☐ Other: _____
☐ Site Plan	☐ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Champion Xpress Car Wash

Please provide a short description of the proposed project in the space provided below:

The subject request is for a Special Use Permit to accommodate a 4, 360 square foot (SF) tunnel car wash.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Curtis Hawkins Date: 4/22/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: Please refer to the attached authorization form. Date: 4/22/2022

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.

2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.

3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303-857-6694
Fax: 303.857.0351
www.fortluptonco.gov

APPLICATION FOR SPECIAL USE PERMIT

A pre-application conference and site visit may be required prior to submitting the Special Use Permit Application. The applicant may meet with representatives from the Planning Department to discuss the applicant's intended submittal, the City's application requirements and processes and other information relevant to the proposed application. Please contact the Planning Department at 303-857-6694.

Applicant should provide the following:

1. Plat of area with proposed zoning with vicinity map identifying site and surrounding area. If you are constructing a new building or adding to an existing building as part of this application, you must also submit a plot plan, construction plans, and a drainage plan. Approval of the special use permit will be based upon the drawings submitted unless changes are recommended by the engineer, planning commission, or city council.
2. Information as requested.

The applicant is responsible for the following:

1. Posting a hearing notice on the property 15 days prior to the hearing.

Name of Property Owner(s): Vincent Village, LLC Phone: 303-534-4822

Address: 5300 DTC Parkway, Suite 100 Greenwood Village, CO 80111

Applicant (if different from owner): 7B Building & Development

Address: 13105 Dover Ave, Lubbock, TX 79424 (Alan Kirchoff)

Home Phone: _____ Cell Phone: 512-608-1904

Address or location of Property for which Special Use Permit is being requested:

120 Copper Pl., Fort Lupton, CO 80621

Legal Description LOT 7, AMENDED PLAT OF LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION IN THE CITY OF FORT LUPTON, COUNTY OF WELD, COLORADO.

Current Zoning: C-1

Reason for Request:

Per Seciton 16-40.e.1 of the Fort Lupton Municipal Code an auto wash facility is a considered a Special Use and must be review under a public process.

Please answer the following questions in detail.

1. What is the proposed use?
   The Proposed Use is a tunnel car wash.

2. How will the proposed use impact the surrounding properties as it relates to the following areas:

   Noise: Noise produced by the car wash is not anticipated to impact adjacent properties.

   Dust The car wash does not produce any dust.

   Odor:The car wash does not produce any odors.

   Safety: The carwash does not create any saftey hadzards to the public.

   Traffic:Trips Generated by the Propose Use is in conformance with the Vincent Village Traffic Impact Study prepared by Wilson & Company dated December 2018.

   Light:The Car wash will not create any glare or disturbance to adjacent properties.

3. What are the proposed hours of operation?
   Hours of operation are 8 AM-8PM.

4. Are you required to obtain any special licenses or permits through any other government agency? If yes, what types of licenses and permits are required?
   No.

5. If this application is for a daycare, how many children will you be caring for?
   This application is not for a daycare.

6. If this application is for an assisted living facility, how many units will you have in the facility?
   This application is not for an assisted living facility.

7. How many employees will work at the proposed facility?
   Three employees will operate the facility at any given time.

The applicant hereby certifies that the above information, along with the attached plans and project descriptions, is correct. The applicant agrees to comply with the provisions of the zoning ordinances, building code and all other applicable sections of the City Code, Land Use Code, City Plan and all other laws and ordinances affecting the construction and occupancy of the proposed building.

Signature(s): Curtis Hawkins Date: 4/22/2022

April 22, 2022

City of Fort Lupton Planning & Building Department
Attn: Maria Lancto
130 S. McKinley Avenue
Fort Lupton, CO 80921

April 22, 2022

RE: Champion Xpress Car Wash Special Use Permit Proposal

To whom it may concern,

This letter provides a detailed description of the proposed Champion Xpress car wash at 120 Copper Pl., Fort Lupton, CO 8062. The following Attachments supplement the information in this letter:

Attachments

1. Land Use Application
2. Special Use Application
3. Deed of Trust
4. Property Owner Authorization Form
5. Word format document with the legal description
6. Plat
7. Site Plan (Inclusive of Landscape Plan, Building Elevation Drawings, & Photometric Lighting Plan)
8. 3D Renderings and Building Materials
9. Drainage Compliance Letter
10. Trip Generation Memorandum
11. Adjacent Property Owner Addresses
12. United Power Ability to Serve Letter
13. DRC Approval

Background

Baseline Engineering represents 7B Building and Development in applying for a Special Use Permit (SUP) for 120 Copper Pl., Fort Lupton, CO 80621.

> The property is legally described as: LOT 7, AMENDED PLAT OF LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION IN THE CITY OF FORT LUPTON, COUNTY OF WELD, COLORADO.

7B Building & Development is a family-owned and operated business. The company has gained a strong reputation for its quality construction services, dependable service to customers, strict budgetary adherence, and outstanding performance as a commercial contractor. At its core, 7B is a general contracting firm that has grown into a full-service commercial construction company. Its rapid growth is fueled by its commercial contracting experience and delivery.

7B Building and Development is the Developer and General Contractor of Champion Xpress Car Washes. Champion Xpress Car Wash is an express car wash company with locations in New Mexico, Colorado, and Utah; the company's headquarters is located in Lubbock, TX. Champion Xpress Car Wash values excellence, hard work, stewardship, and making a difference in the communities they serve.

Project Request

The subject request is for a Special Use Permit to accommodate a 4,360 square foot (SF) tunnel car wash in the C-1 General Commercial Zone District. Additional site data is delineated in Table 1.

Table 1. Site Data

Lot Size	0.97 acres
Pavement Area	24, 727 SF
Landscape Area	13,018 SF
Building Area	4, 360 SF
Vacuum Stall Parking	16 Spaces
Employee Parking	3 Spaces

Operational Information

The Car Wash is open to customers 12 hours a day from 8 a.m. to 8 p.m. The Champion Xpress Car wash operates with three Employees on site. The AM shift begins one hour to a half-hour before the car wash opens, and the PM shift ends one hour to a half-hour after the car wash closes.

The Champion Xpress Car wash building does not have a customer service lobby and is only accessible to customers accessing the tunnel with their vehicles. The building area is only used for maintenance areas, the employee office area, and the tunnel car wash. There are two points of sale for the car wash, which include the pay stations located just before the entrance to the car wash tunnel and the vacuums stalls located in the parking areas

Sewer/Water Tap Information

Water Tap Size: 1 ½" ----Sewer Tap Size: 1 ½"

Table 2. Water Use & Discharge

	Gallons	Acre Feet
Estimated Monthly Raw Water Use:	124,250	0.38
Estimated Annual Raw Water Use:	1,491,000	4.58
Estimated Monthly Discharge:	82,250	0.25
Estimated Annual Discharge	987,000	3.03

Criteria Review

1. The special use shall satisfy all applicable provisions of the Code and shall be consistent with the intent of the Comprehensive Plan.

   Response: The Champion Xpress car wash intends to be in conformance with all applicable sections of the Fort Lupton Municipal Code, including but not limited to: all
   - Requirements of Section 16-40.- C-1 General Commercial Zone District,
   - Chapter 18-Building Code Regulations
   - Chapter 13-Municipal Utilities
   - Chapter 18-Article III-District Regulations
   - Chapter 18-ARTICLE IV - Parking

- Chapter 18-ARTICLE VII – Signs
- Public Works Department- Standards and Specifications Manual

The Champion Xpress Car Wash is consistent with the following statements of the Eastern 1st Street Commercial, Commercial within the "Picture Fort Lupton" Comprehensive Plan:

- "This property is well-positioned within Fort Lupton to provide space for new commercial retail and service uses. New investment on the property should reflect the design and style of the adjacent Safeway Development, aiming to offer residents additional shopping options."
    - In conjunction with its aesthetic design features, the car wash use integrates into the surrounding commercial developments. The Champion Xpress Car Wash intends to conform to City of Fort Lupton Commercial and Industrial Design Standards.

- "As part of streetscaping efforts, the City should take advantage of opportunities to integrate landscaping that will positively impact the character of the corridor, such as planters, flower beds, or street trees. West of the railroad, the narrow public right-of-way may limit landscaping opportunities; however, the City should coordinate with CDOT and adjacent property owners to increase greenery and plant life."
    - The Champion Xpress Car Wash incorporates landscaping and screening features where applicable and possible without encroaching into right-of-way or utility easements.

- "Some properties along 1st Street contain vacant areas, often a dirt lot located behind the primary structure. While these areas sometimes contain accessory uses, utilities, or outdoor storage, they are generally unincorporated within site design and can contribute to a vacant or unmaintained appearance. "
    - The Champion Xpress car wash utilizes the entire property with respect to the standards and requirements of the Municipal Code, adjacent property owners, and utility easements.

2. The special use shall not substantially alter the character of the district or the neighborhood.

    Response: Under the 1st street Corridor Sub Area Design Guidelines, the Champion is in conformance with the following statements:
    - "Primary structures should be centrally located on the property, with parking located on the front of the property with necessary buffering from the public right-of-way. Setbacks should be variable per site design, allowing space as necessary for automobile movement and service areas and access."
    - "Where necessary, service areas, loading bays, utilities, and storage areas should be located behind the primary structure, away from the property frontage and public right-of-way."
    - "Buildings should have a strong visual and physical relationship to the 1st Street Corridor to enhance the image and identity of the Corridor."
    - "Architectural details should be visible from the Street. Buildings should not be setback so far as to diminish the aesthetic impact of the building on passing pedestrians and motorists. Buildings should be attractive at both a pedestrian and vehicular scale."
    - "Building materials for commercial properties should be consistent with existing structures east of the railroad, particularly the Safeway development. The use of appropriate building materials is fundamental to compatible new development and the rehabilitation of existing structures."

- "High quality screening and appropriate buffers can contribute to the appearance of the Subarea while disrupting views of unattractive areas and extensive pavement. Long-term redevelopment of incompatible uses, per the Land Use Plan, should reduce conflicts which require screening; however, screening should still be required until such time as redevelopment occurs."

3. The special use will result in efficient on- and off-site traffic circulation. The special use will not have an adverse impact on adjacent uses, nor will it present hazardous conditions for pedestrians or vehicles.

   Response: The Champion Xpress Car Wash will have efficient on- and off-site traffic circulation and will not have an adverse impact on adjacent uses or present hazardous conditions for pedestrians or vehicles. Please refer to the attached Trip Generation Memorandum [Attachment 10].

4. Adequate conditions of approval shall address: traffic; activity levels; light; noise; odor; building type, style and scale; hours of operation; dust; erosion and other performance issues identified through the public hearing process.

   Response: The Car Wash is anticipated to be compatible with the surrounding properties.

   - Land Use: Except for the property to the east, all adjacent properties are zoned C-1-General Commercial Zone District. The property to the east, owned by the City, is zoned P-Parks and Open Space and is operated as the Coyote Creek Golf Course. Applicable impacts to this property are noise; Noise is addressed below.

   - Noise: Noise impacts are applicable to the properties located east and west of the proposed car wash where there are existing and proposed land uses. Noise from the car wash is produced by the car wash tunnel dryers and the vacuums located within the parking area.
     - The nearest hole on the golf course is located approximately 200 feet from the vacuum stalls and 250 feet from the car wash tunnel dryers. At 150 feet, the Vacuums produce a noise level of 42 dBA. At 250 feet, the tunnel dryers produce a noise level of 58 dba. In a review of Sec. 16-43.f - I-2 Heavy Industrial District, industrial uses abutting residential should not exceed a noise level of 70 dBA. The car wash is not an industrial use abutting residential; however, Sec. 16-43.f appears to be the most comparable standard in the Fort Lupton Municipal Code. No noise impacts are anticipated to the golf course.
     - The property west of the Car Wash is proposed as a dental office. Based on the concept plan for lot 6, where the dental office is located, the building is approximately 95 feet from the car wash tunnel. At 100 feet, the car wash tunnel dryers produce noise levels of 53dba. In a review of Sec. 16-43.f - I-2 Heavy Industrial District, industrial uses abutting commercial should not exceed a noise level of 80 dBA. The car wash is not an industrial use; however, Sec. 16-43.f appears to be the most comparable standard in the Fort Lupton Municipal Code. No noise impacts are anticipated to the proposed dental office.

   - The car wash will not produce any light, odor, dust, or erosion impacts.

   - Additional Information: Champion Xpress builds and operates environmentally friendly car washes that reduce water consumption through strategically designed water reclaim systems. The company also uses green, ecologically friendly chemicals.

Contact Information

Title	Name	Organization	Email	Phone
Applicant	Steve Snelson	7B & Development	ssnelson@7bdev.com	432.661.4489
Applicant Contact	Alan Kirchhoff	7B & Development	alan@7bdev.com	512.608.1904
Property Owner	Robert (Bob) Leino	Fuller Real Estate, LLC	bleino@fullerre.com	303-534-4822
Representative	Tez Hawkins	Baseline Engineering	Tez.hawkins@baselinecorp.com	970.688.2175
Civil Engineer	Luke Meyers	Baseline Engineering	Luke.meyers@baselinecorp.com	303.940.9966 x208
Architect	Ben Woods	CLHelt	BenW@clhelt.com	704.342.1686
Landscape Architect	Sarah Adamson	Baseline Engineering	kortney.harris@baselinecorp.com	303.202.5010

SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO

CONTACTS:

DEVELOPER
7B BUILDING AND DEVELOPMENT
13105 DOVER AVENUE
LUBBOCK, TX 79424
CONTACT: STEPHEN SNELSON
TELEPHONE: (806) 368-7843

CIVIL ENGINEER
BASELINE ENGINEERING
112 N. RUBEY DRIVE, #210
GOLDEN, CO 80403
TELEPHONE: (303) 940-9966
CONTACTS: LUKE MYERS

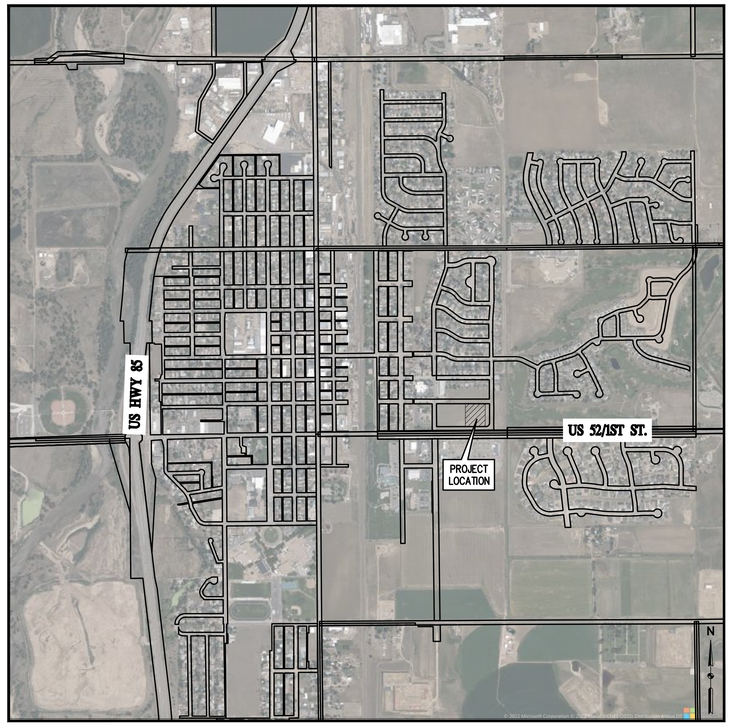
ARCHITECT
C.L. HELT ARCHITECT, INC
6405 W. WILKINSON BLVD., SUITE 100
BELMONT, NC 28012
TELEPHONE: (704) 342-1686
CONTACTS: BEN WOODS

MUNICIPALITY
CITY OF FORT LUPTON, CO
130 S MCKINLEY AVENUE
FORT LUPTON, CO 80621
TELEPHONE: (303) 857-6694

FIRE DISTRICT
FORT LUPTON FIRE DEPARTMENT
1121 DENVER AVENUE
FORT LUPTON, CO 80621
TELEPHONE: (303) 857-4603

WATER & SEWER
CENTRAL WELD COUNTY WATER DISTRICT
2235 2ND AVENUE
GREELEY, CO 80631
TELEPHONE: (970) 353-5865

ELECTRIC
LEGEND ENERGY SERVICES
3112 COUNTY ROAD 27
FOR LUPTON, CO 80621
TELEPHONE: (303) 857-80621



VICINITY MAP
SCALE: 1" = 1,000'

BASIS OF BEARINGS

GPS DERIVED BEARINGS BASED ON A BEARING OF N00°16'10"W ALONG THE EASTERLY LINE OF THE NORTHWEST QUARTER OF SECTION 5, BETWEEN A FOUND #6 REBAR WITH 3 ¼" ALUMINUM CAP "LS 14823" IN RANGE BOX PER MONUMENT RECORD AT THE NORTH QUARTER CORNER OF SECTION 5 AND A FOUND #6 REBAR WITH 3 ¼" ALUMINUM CAP "LS 13155" IN RANGE BOX (PER MONUMENT RECORD) AT THE CENTER QUARTER CORNER OF SECTION 5 AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83/07). ALL BEARINGS SHOWN HEREON ARE RELATIVE THERETO.

BENCHMARK

CONTROL POINT #1 (1" BRASS PLUG PLS 37066) NORTHWEST CORNER OF SITE, N=1273522.40, E=3196147.57, ELEVATION 4917.82'.

SHEET INDEX

SHT NO.	SHEET TITLE
C1.0	COVER
C2.0	SITE PLAN
C3.0	GRADING PLAN
C4.0	OVERALL UTILITY PLAN
A1.0	ARCHITECHTURAL ELEVATIONS
A1.1	ARCHITECTURAL DETAILS
E1.0	SITE PHOTOMETRICS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE NOTES
L1.2	LANDSCAPE DETAILS

PROPERTY DESCRIPTION

A PARCEL OF LAND IN THE CITY OF FORT LUPTON, COLORADO, LOCATED IN THE NW ¼ OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M. AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:
LOT 7, AMENDED PLAT OF VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO.

OWNER'S APPROVAL

KNOW ALL MEN BY THESE PRESENTS, THAT _____, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIEN UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAN AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 2022.

STATE OF COLORADO)
) §
COUNTY OF WELD)

THE FOREGOING WAS ACKNOWLEDGED BEFORE ME BY _____ ON THIS _____DAY OF _____, 2022. WITNESS MY HAND AND OFFICIAL SEAL.

MY COMMISSION EXPIRES: _____.

_____
NOTARY PUBLIC

CITY ENGINEER'S APPROVAL

APPROVED THIS _____ DAY OF _____, 2022.

_____
CITY ENGINEER

CITY WATER & SEWER DEPARTMENT APPROVAL

APPROVED THIS _____ DAY OF _____, 2022.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL

APPROVED THIS _____ DAY OF _____, 2022.

_____
CITY ADMINSTATOR

PLANNING COMMISSION RECOMMENDATION

APPROVED THIS _____ DAY OF _____, 2022.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY (ORDINANCE/RESOLUTION) NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE _____DAY OF _____, AD 2022 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID (ORDINANCE/RESOLUTION) ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:

_____
CITY CLERK

(SEAL)

BASELINE
Engineering · Planning · Surveying
112 N. RUBEY DRIVE, SUITE 210 · GOLDEN, COLORADO 80403
P: 3039403966 · F: 3039403959 · www.baselineeng.com

REVISION DESCRIPTION	PREPARED BY	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022	KLM	ADM	SRM

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
WELD COUNTY
LOT 7
COVER SHEET

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Cover.dwg
SHEET 1 OF 10	

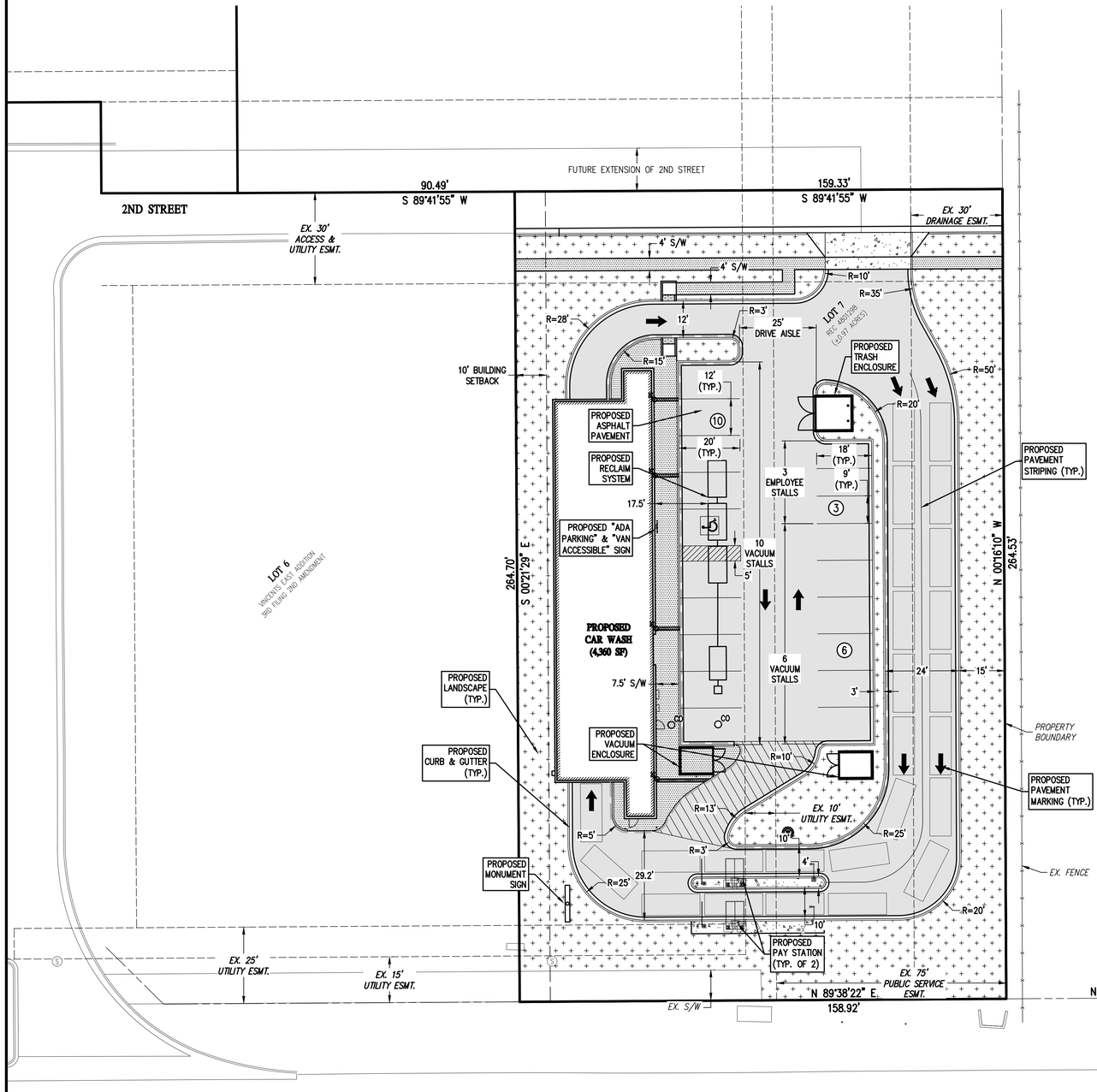
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SPECIAL USE PERMIT

CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



LEGEND:

PROPERTY LINE		EXISTING SANITARY MH	
LOT LINE		EXISTING STORM MH	
EXISTING FEMA FLOODPLAIN		PROPOSED STORM INLET	
EXISTING EASEMENT		PROPOSED F.E.S.	
PROPOSED EASEMENT		PROPOSED RIP RAP	
EXISTING RIGHT-OF-WAY		EXISTING FIRE HYDRANT	
EXISTING MAJOR CONTOUR		PROPOSED FIRE HYDRANT	
EXISTING MINOR CONTOUR		PROPOSED WATER METER	
EXISTING CURB & GUTTER		PROPOSED LIGHT	
PROPOSED CURB & GUTTER		PROPOSED TRANSFORMER	
EXISTING BUILDING		PROPOSED ELECTRIC METER	
PROPOSED BUILDING		PROPOSED SIGN	
PROPOSED ASPHALT PAVEMENT			
PROPOSED CONCRETE PAVEMENT			
PROPOSED SIDEWALK PAVEMENT			
PROPOSED LANDSCAPING			

SITE DATA

LOT SIZE	0.97 ± ACRES
PAVEMENT AREA*	±24,727 SF
LANDSCAPE AREA	±13,018 SF
BUILDING AREA	±4,360 SF
VACUUM PARKING	16 SPACES
EMPLOYEE PARKING	3 SPACES
ZONING	GENERAL COMMERCIAL
FEMA FIRM MAP	08123C2110E (ZONE X)

NOTES:

*1. PAVEMENT AREA DOES NOT INCLUDE PAVEMENT REQUIRED TO EXTEND TO 2ND STREET.

2. NO STRUCTURES ARE PERMITTED WITHIN THE OVERHEAD ELECTRICAL EASEMENT.

3. PARKING, ACCESS AND OTHER IMPROVEMENTS ARE PERMISSIBLE WITH ADDITIONAL PERMITTING AND COORDINATION WITH XCEL ENERGY.

N

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

BASELINE
Engineering · Planning · Surveying
102 N. RUBEY DRIVE, SUITE 210 · GOLDEN, COLORADO 80403
P: 3033403868 · F: 3033403869 · www.baselinecorp.com

DESIGNED BY KTM | DRAWN BY KDW | CHECKED BY SKRM

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON | WELD COUNTY
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
SITE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Site.dwg
SHEET 2 OF 10	

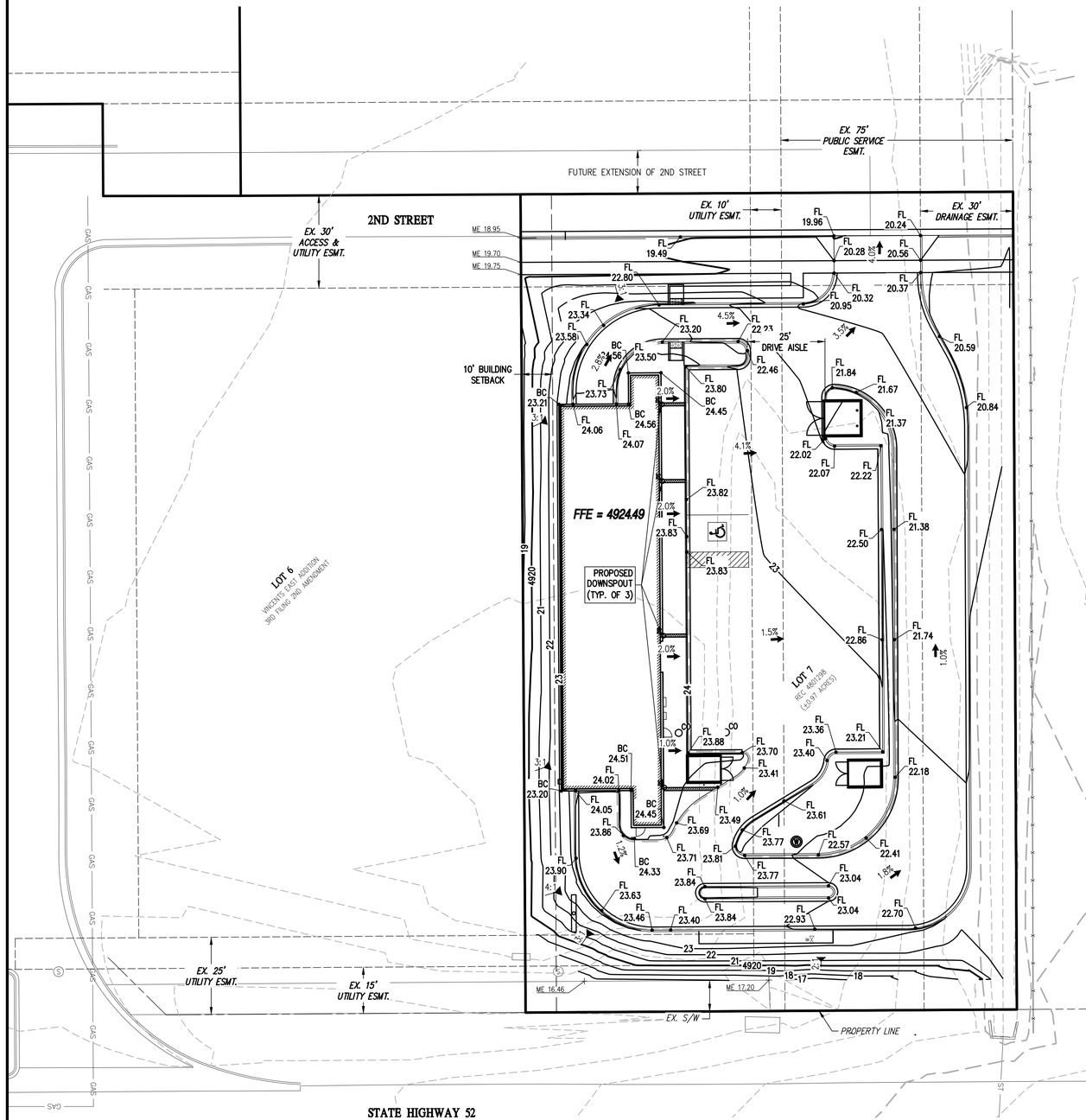
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SPECIAL USE PERMIT

CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



LEGEND:

PROPERTY LINE	EXISTING SANITARY MH
LOT LINE	EXISTING STORM MH
EXISTING FEMA FLOODPLAIN	PROPOSED STORM INLET
EXISTING EASEMENT	PROPOSED F.E.S.
PROPOSED EASEMENT	PROPOSED RIP RAP
EXISTING RIGHT-OF-WAY	EXISTING FIRE HYDRANT
5900 EXISTING MAJOR CONTOUR	PROPOSED FIRE HYDRANT
5899 EXISTING MINOR CONTOUR	PROPOSED WATER METER
5900 PROPOSED MAJOR CONTOUR	PROPOSED LIGHT
5899 PROPOSED MINOR CONTOUR	PROPOSED TRANSFORMER
EXISTING CURB & GUTTER	PROPOSED ELECTRIC METER
PROPOSED CURB & GUTTER	PROPOSED SIGN
EXISTING BUILDING	
PROPOSED BUILDING	

N

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

BASELINE
Engineering · Planning · Surveying
102 N. RUBEY DRIVE, SUITE 210 • GOLDEN, COLORADO 80403
P: 3039403868 • F: 3039403869 • www.baselinecorp.com

DESIGNED BY KTM | DRAWN BY KDW | CHECKED BY SKRM

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
WELD COUNTY
LOT 7
GRADING PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

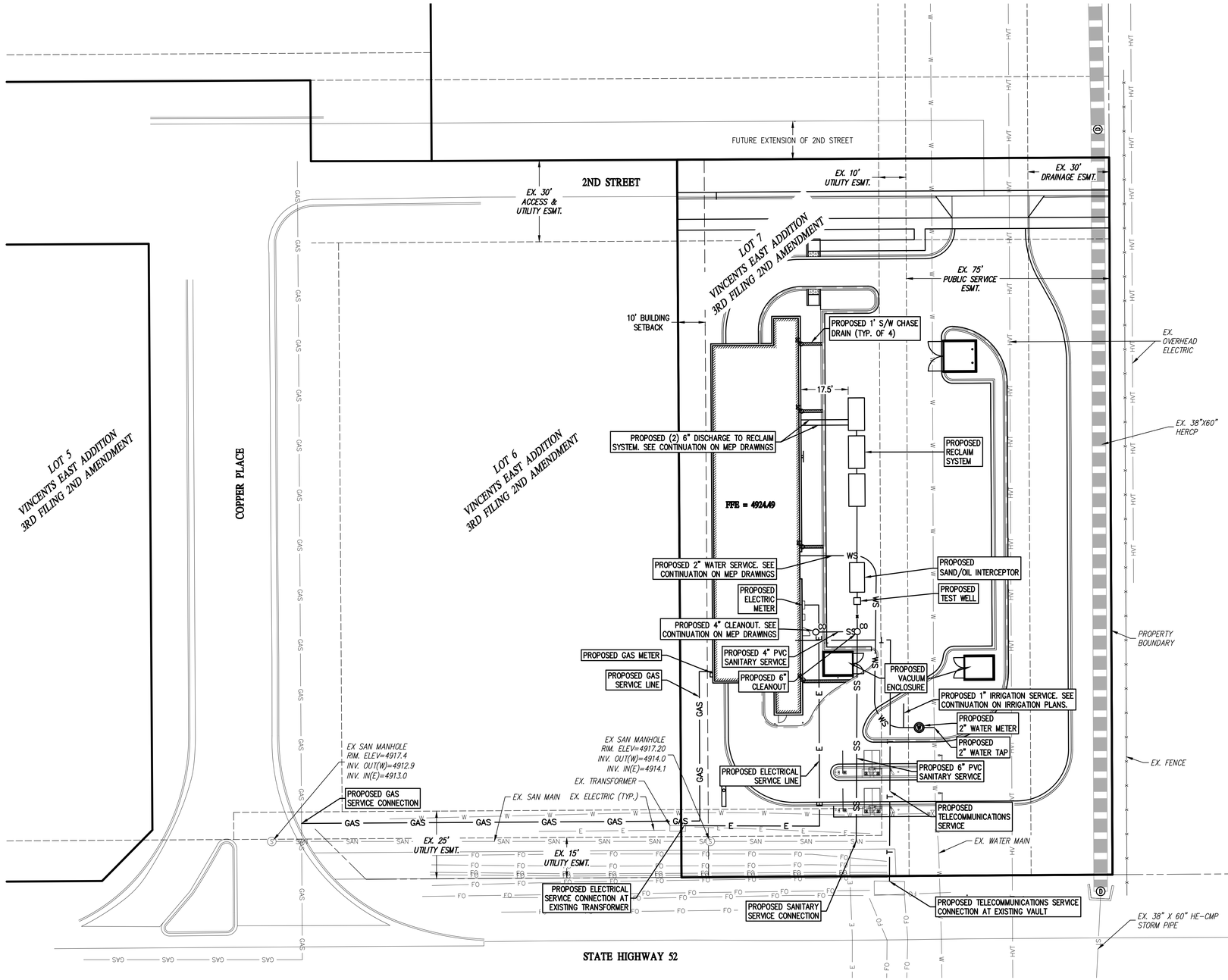
INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Grading.dwg
SHEET 3 OF 10	

C3.0

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SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



LEGEND

EXISTING LINETYPES	PROPOSED LINETYPES	
		PROPERTY BOUNDARY
		EASEMENT
		BUILDING SETBACK
		EDGE OF ASPHALT
		WIRE FENCE
		CURB AND GUTTER (SPILL/CATCH)
		EDGE OF BUILDING
		DITCH FLOWLINE
W	W	WATER LINE
WS	WS	WATER SERVICE
IRR	IRR	IRRIGATION LINE
SAN	SAN	SANITARY SEWER MAIN
SS	SS	SANITARY SEWER SERVICE
		STORM SEWER
GAS	GAS	GASLINE
HVT	HVT	HIGH VOLTAGE TRANSMISSION
E	E	UNDERGROUND ELECTRIC

EXISTING SYMBOLS	PROPOSED SYMBOLS	
(R)	(W)	WATER METER
(S)	(S)	SANITARY MANHOLE
	CO	CLEANOUT
DS	DS	DOWNSPOUT
		TYPE '13' VALLEY INLET
G	G	GAS METER

N

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

BASELINE
Engineering · Planning · Surveying
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DESIGNED BY	DRAWN BY	CHECKED BY
KLM	KLM	SKM

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON WELD COUNTY
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
OVERALL UTILITY

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FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Utility.dwg
SHEET 4 OF 10	

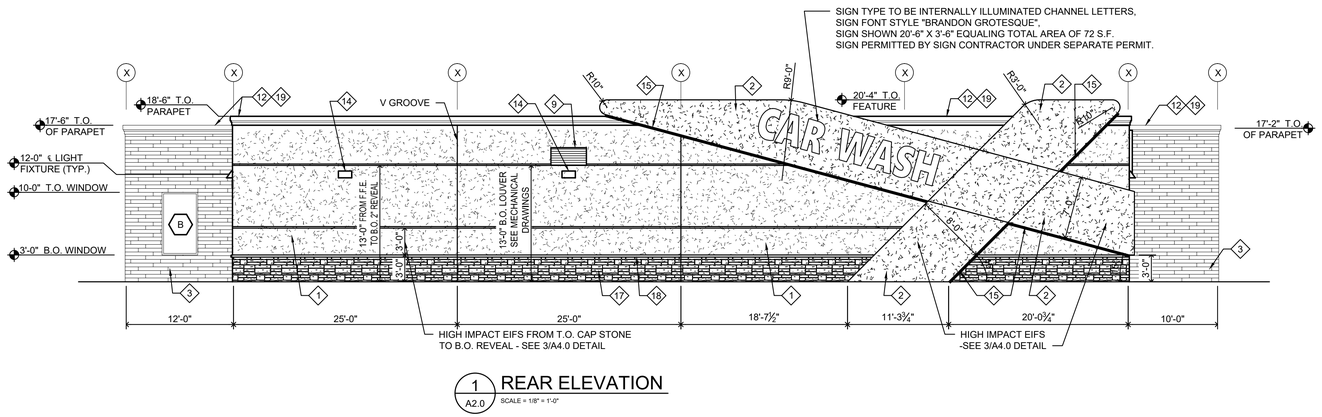
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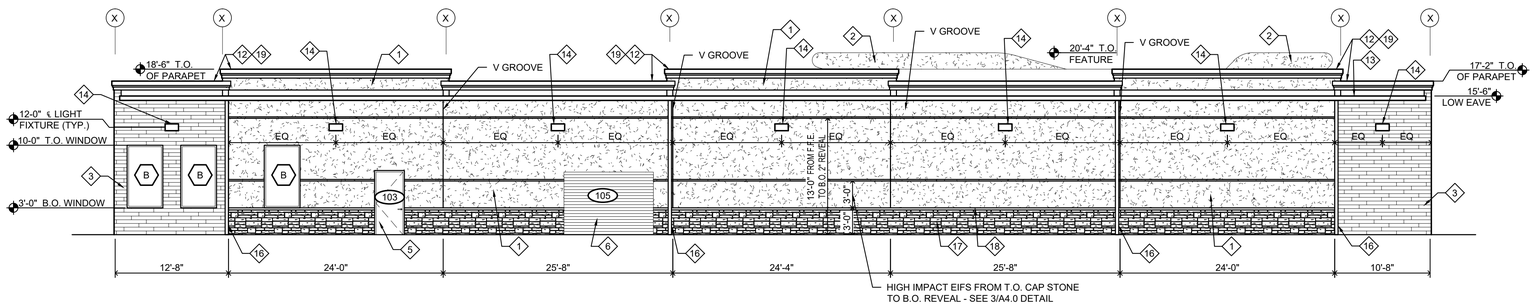
SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO

LEGEND	
000	WINDOW TYPE. SEE WINDOW GLAZING ELEVATION ON SHEET A5.0
000	DOOR TYPE. SEE DOOR SCHEDULE ON SHEET A5.0
000	FINISH TYPE. SEE EXTERIOR FINISH SPEC. LEGEND



1 A2.0 REAR ELEVATION
SCALE = 1/8" = 1'-0"



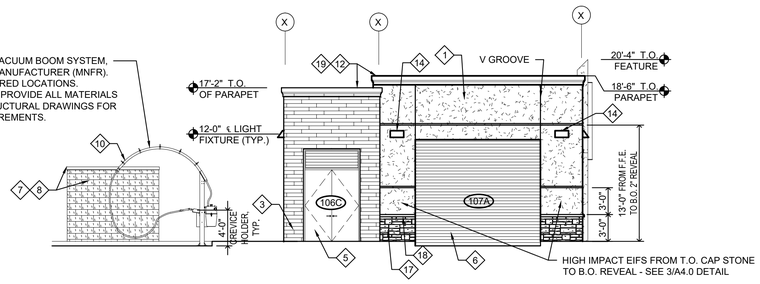
2 A2.0 FRONT (PARKING) ELEVATION
SCALE = 1/8" = 1'-0"

EXTERIOR FINISH SPEC. LEGEND

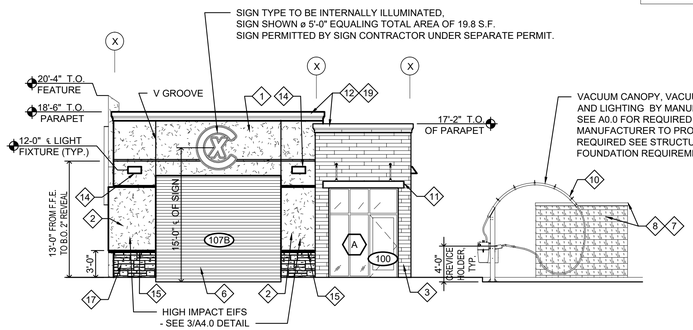
NOTE: SAMPLES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION

1	EIFS WALL SYSTEM MANUF: STO OR EQUAL COLOR: STO 37110 TEXTURE: MEDIUM
2	EIFS WALL SYSTEM AT "X" MANUF: STO OR EQUAL COLOR: STO 35140 TEXTURE: 81130 STOLITE 1.0 DARK GLOSSY PROVIDE 2 COATS 80648 STOCOLOR ACRYL PLUS
3	NEWTECHWOOD ULTRASHIELD NATURALE COMPOSITE CLADDING-SIDING SYSTEM MANUF: NEWTECHWOOD COLOR: US09/ US30/ US31
4	MAIN BUILDING ROOF PANEL MANUF: WHIRLWINDSTEEL COLOR: GALVALUME PLUS STYLE: SUPER SPAN X
5	PAINT FINISH DOORS AND LOUVERS IN HOLLOW METAL DOOR FRAME MANUF: SHERWIN WILLIAMS COLOR: SW 6174 (1 PRIME + 2 COATS COLOR) NAME: ANDIRON
6	PAINT FINISH (1 PRIME + 2 COATS COLOR) MANUF: IFS COATING COLOR: RAL 90333 CRYSTAL WHITE PRODUCT#: PLSF 80037PAINT FINISH
7	SPLIT FACE CMU COLOR: PAINTED TO MATCH EIFS COLOR STO 37110
8	CMU WALL CAP TO MATCH CMU
9	LOUVERS AT EIFS MANUF: SHERWIN WILLIAMS COLOR: SW 7653 (1 PRIME + 2 COATS COLOR) NAME: SILVERPOINTE
10	VACUUM BOOM FRAME MANUF: SONNY COLOR: SILVER
11	CANOPIES W/ FLAT SOFFIT MANUF: MAPES ARCHITECTURAL CANOPIES OR EQUAL COLOR: MAPES BRONZE
12	COPING CAP MANUF: WHIRLWINDSTEEL COLOR: BURNISHED SLATE
13	GUTTER AND ACCESORIES MANUF: WHIRLWINDSTEEL COLOR: POLAR WHITE
14	WALL PACK - SEE ELECTRICAL CENTER BETWEEN EIFS GROVE TYP.
15	COVE LIGHTING FEATURE - SEE ELECTRICAL
16	DOWNSPOUT BY PEMB COLOR: POLAR WHITE
17	STACKED STONE MANUF: SUNSET STONE COLOR: PINOS CREEK
18	WAINSCOT CAP MANUF: SUNSET STONE COLOR: DEL NORTE
19	EIFS WALL SYSTEM (CORNICE AT PARAPET) MANUF: STO OR EQUAL COLOR: STO 32243 TEXTURE: MEDIUM

NOTE: SIGN CONTRACTOR SHALL ENGINEER ATTACHMENT OF SIGN TO BUILDING STRUCTURE AND DETERMINE NUMBER OF FASTENERS, SIZE OF FASTENERS, AND ATTACHMENT POINTS. FASTENERS SHALL BE BLIND TO BE INSTALLED FROM EXTERIOR ONLY. PROVIDE PIPE SPACER TO AVOID CRUSHING WALL FINISH. SEAL ALL PENETRATION WATERTIGHT.



3 A2.0 EXIT ELEVATION
SCALE = 1/8" = 1'-0"



4 A2.0 ENTRANCE ELEVATION
SCALE = 1/8" = 1'-0"

C.L. Helt, Architect Inc.

DESIGNED BY	DRAWN BY	CHECKED BY
VR	VR	DM

NO.	DESCRIPTION	PREPARED BY	DATE
1	SPECIAL USE PERMIT SUBMITAL #1	BW	4/22/2022

CHAMPION XPRESS CAR WASH ELEVATIONS
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
WELD COUNTY
ARCHITECTURAL ELEVATIONS

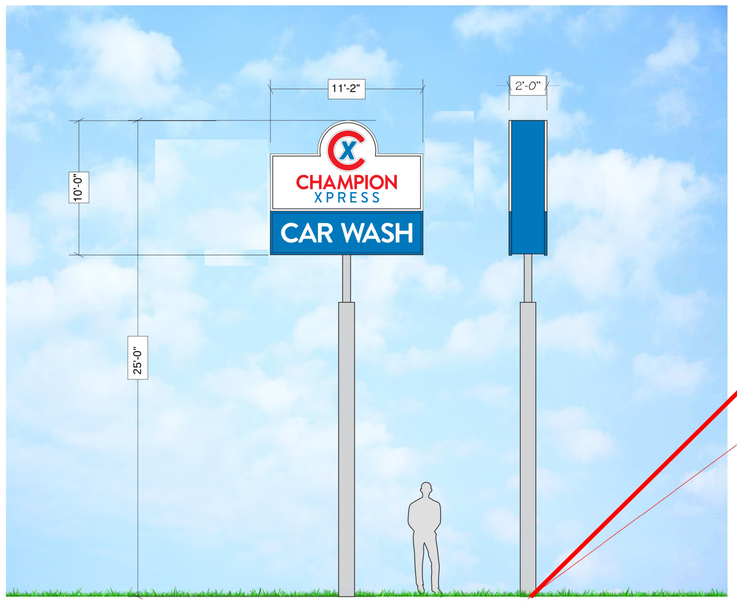
PREPARED UNDER THE DIRECT SUPERVISION OF
PRELIMINARY NOT FOR CONSTRUCTION
FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	
ARHCITECTURAL ELEVATIONS	
SHEET	02 OF 10

A1.0

SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO

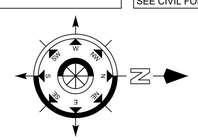


2 A0.0 FREE STANDING SIGN CONCEPTUAL IMAGE
NTS.

1 A0.0 ARCHITECTURAL SITE PLAN / CANOPY LAYOUT
SCALE = 1" = 20'-0"

GC NOTE: PLAN MAY BE ROTATED FROM CIVIL ORIENTATION. COORDINATE BUILDING ORIENTATION WITH TRAVEL DIRECTION ARROWS SHOWN

ARCHITECTURAL SITE PLAN NOTE:
SEE CIVIL FOR BALANCE OF INFORMATION NOT SHOWN



C.L. Helt, Architect Inc.

DESIGNED BY VR
DRAWN BY VR
CHECKED BY DM

PREPARED BY BW DATE 4/22/2022

ELEVATIONS
DESCRIPTION SPECIAL USE PERMIT SUBMITAL #1

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
WELD COUNTY
LOT 7
ARCHITECTURAL SITE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

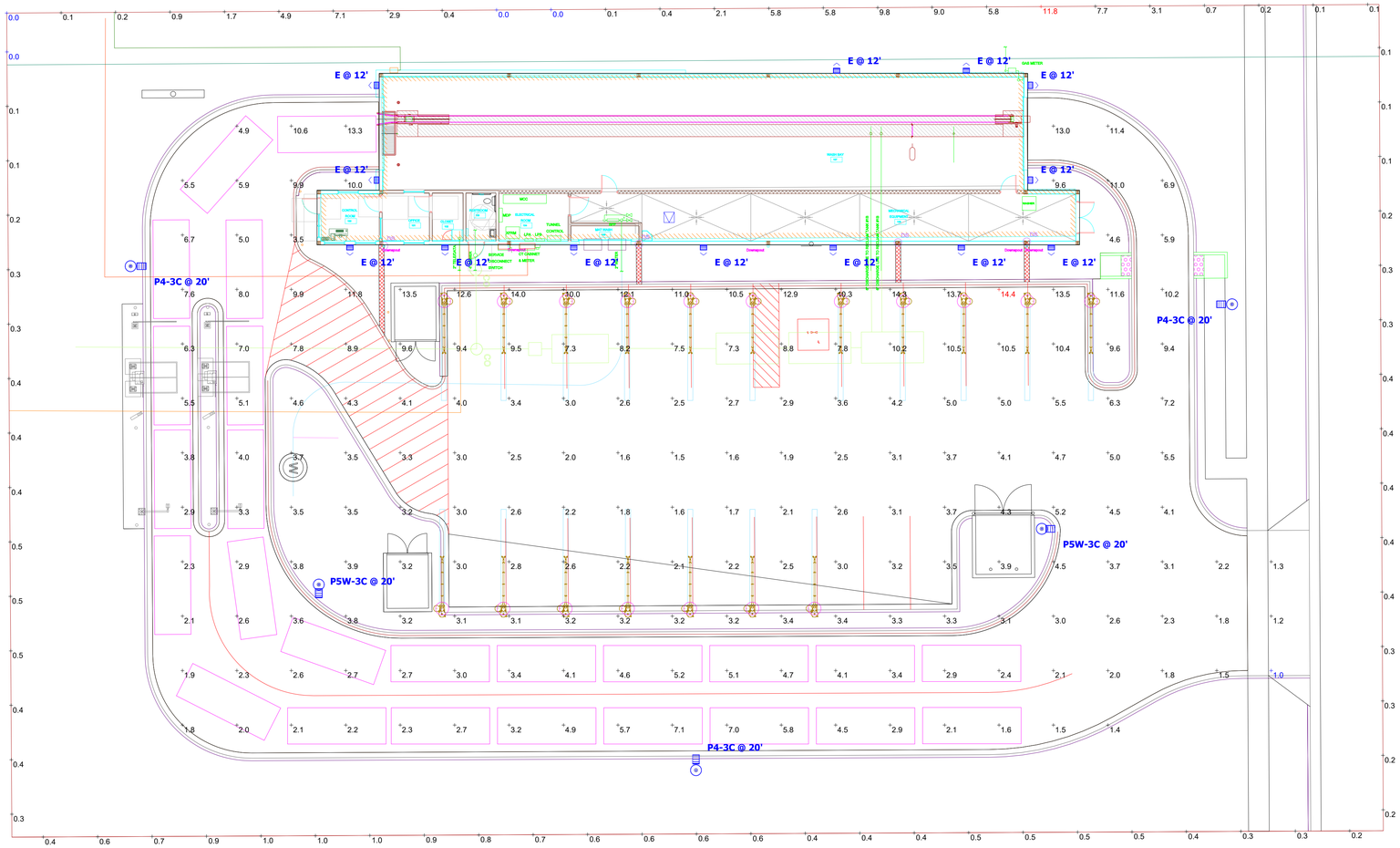
INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM BEC	SURVEY DATE 03/07/2022
JOB NO.	493
DRAWING NAME	ARHCITECTURAL SITE PLAN
SHEET	06 OF 10

A1.1

SPECIAL USE PERMIT

CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



Schedule

Symbol	Label	Quantity	Catalog Number	Description	Lamp	Wattage
	P4-3C	3	GLEON-SA3C-740-U-SL4-HSS	Single Head Eaton McGraw Edison Galleon Series LED Area Unit w/Type SL4 (Spill Light Control Type 4 Distribution & 17.5ft. Pole Height w/2.5ft. Base) House Side Shielding (Full Cutoff Design)	LED/4000K (FULL CUTOFF DESIGN w/SHIELDING)	166
	P5W-3C	2	GLEON-SA3C-740-U-5WQ	Single Head Eaton McGraw Edison Galleon Series LED Area Unit w/Type 5WQ Distribution (17.5ft. Pole Height w/2.5ft. Base) Full Cutoff Design	LED/4000K (FULL CUTOFF DESIGN)	166
	E	13	RWL2-160L-50-4K7-4W-UNV	Hubbell Outdoor Lighting Ratio RWL2 Series Wall Mounted LED Sconce Unit w/Type 4W Optics (12ft. Mounting Height)	LED/4000K (FULL CUTOFF DESIGN)	54

Statistics

Description	Symbol	Avg	Max	Min	Max / Min	Avg / Min
Parking Lot Light Levels	+	5.1 fc	14.4 fc	1.0 fc	14.4:1	5.1:1
Property LIne Light Levels	+	1.3 fc	11.8 fc	0.0 fc	N/A	N/A

1 E1.0 SITE PHOTOMETRICS
SCALE = NTS

C.L. Helt, Architect Inc.

DESIGNED BY AC | DRAWN BY AC | CHECKED BY AC

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	AC	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
WELD COUNTY
SITE PHOTOMETRICS

PREPARED UNDER THE DIRECT SUPERVISION OF:
PRELIMINARY NOT FOR CONSTRUCTION
FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	
SITE PHOTOMETRICS	
SHEET 07 OF 10	

E1.0

HUBBELL®
Outdoor Lighting

TYPE E

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Wall

RWL1/RWL2 LED WALLPACK

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, Wiscape and 7-Pin with networked controls
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada
- Stock versions available in 3500lm and 5500lm configurations at 4000K

C US

BUY AMERICAN SOLUTIONS
See Certification Specifications



RELATED PRODUCTS

Ratio Family Ratio Area Ratio Flood

CONTROL TECHNOLOGY

SiteSync LIGHTING CONTROL NX DISTRIBUTED™ INTELLIGENCE wiSCAPE™

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 48 or 160 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI/80 CRI) CCT
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.
- Integral back box contains 1/2" conduit hubs
- Integral back box standard with Dual Driver, Dual Power Feed, NX, Wiscape and battery versions (battery versions for RWL1 only)

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option for all wattages above 35W.

ELECTRICAL (CONTINUED)

- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Driver RoHS and IP66
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -25˚C to 40˚C. RWL1 battery is 12.5W RWL2 battery is 18W

CONTROLS (CONTINUED)

- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- IP65 rated housing
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1,300–18,800
Wattage Range	10–155
Efficacy Range (LPW)	119–148
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	6.5/16.5 (2.9/7.5)

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701 Millennium Blvd • Greenville, SC 29607 / Tel 864.678.1000 / Website www.hubbelloutdoor.com

HUBBELL®
Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

ORDERING GUIDE

Example: RWL1–48L-10–3K7–2–UNV–BLS–E

CATALOG #

ORDERING INFORMATION

Series		# LEDs - Wattage		CCT/CRI		Distribution		Voltage		Color	
RWL1	Ratio Wall 1	**48L-10**	1,000 Lumens[4]	**3K7**	3000K, 70 CRI	**2**	IES TYPE II[1]	**UNV**	120-277V	**BLT**	Black Matte Textured
		48L-15	2,000 Lumens[4]	**4K7**	4000K, 70 CRI	**3**	IES TYPE III	**120**	120V	**BLS**	Black Gloss Smooth
		48L-20	2,500 Lumens[4]	**5K7**	5000K, 70 CRI	**4W**	IES TYPE IV	**208**	208V	**DBT**	Dark Bronze Matte Textured
		48L-25	3,500 Lumens					**240**	240V	**DBS**	Dark Bronze Gloss Smooth
		48L-35	4,500 Lumens					**277**	277V	**GTT**	Graphite Matte Textured
		48L-45	5,500 Lumens[4]					**347**	347V	**LGS**	Light Grey Gloss Smooth
RWL2	Ratio Wall 2	**160L-45**	6,500 Lumens					**480**	480V	**LGT**	Light Grey Matte Textured
		160L-50	7,500 Lumens							**PSS**	Platinum Silver Smooth
		160L-65	9,500 Lumens							**WHT**	White Matte Textured
		160L-80	11,000 Lumens							**WHS**	White Gloss Smooth
		160L-95	13,000 Lumens							**VGT**	Verde Green Textured
		160L-115	15,000 Lumens							**Color Option**	
		160L-135	17,500 Lumens							**CC**	Custom Color
		160L-155	19,500 Lumens								

Control Options Network	
NXWE	NX Wireless Enabled (module + radio)[4,7]
NXSPW_F	NX Wireless, PIR Occ. Sensor, Daylight Harvesting[4,5,7]
NXSP_F	NX, PIR Occ. Sensor, Daylight Harvesting[4,5,7]
WIR	Wireless Controls, wiSCAPE™ [2,6]
Stand Alone Sensors	
SCP-8F	Remote control programmable line voltage sensor[3,4]
SCP-20F	Remote control programmable line voltage sensor[3,4]
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [10]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [10]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12'mounting height [10]
Control Options	
7PR_	7-Pin Receptacle[6]

Options*	
F	Fusing[3]
E	Emergency Battery Backup[7,8,9]
EH	Emergency Battery w/ Heater Option[7,8]
2DR	Dual Driver[4,6,11]
2PF	Dual Power Feed[4,6,11]
PC	Button Photocontrol[8]

Notes:
1 Only available with RWL2
2 wiSCAPE Gateway required for system programming
3 Specific voltage selection is required
4 Not available with 347/480V
5 Replace "_" with "14" for up to 14' mounting height, "40" for up to 40' mounting height
6 This item is located in the integral backbox which will be automatically added onto the fixture if chosen.
7 This item is located in the integral backbox for RWL1 configurations only.
8 Option only available at 120 or 277V
9 2DR and 2PF can't be combined with E and EH due to space limitaions
10 Not available in RWL1 or 2 PF
11 Available only in UNV in 25, 35 and 45 Watt in RWL1; Not available in RWL1 10, 15 and 25 Watt.
* Based on space limitations, some options may not be able to be combined

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Finish
RWL1-48L-25-4K-3	3500lm	25	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-25-4K-4W	3500lm	25	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured
RWL1-48L-45-4K-3	5500lm	45	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-45-4K-4W	5500lm	45	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured

CONTROLS

Control Options	
Standalone	
SCPREMOTE	Order at least one per project location to program and control

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

	Catalog Number	Description
☐	**WP-BB-XXX**	Accessory for conduit entry[1]

Notes:
1 replace "xxx" with color option

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RWL1	10	10.1	3	1362	135	0	0	1	1355	134	0	0	1	1303	129	0	0	1
			4W	1343	133	0	0	1	1336	132	0	0	1	1285	127	0	0	1
	15	14.5	3	1972	136	1	0	1	1962	135	1	0	1	1887	130	1	0	1
			4W	1945	134	0	0	1	1935	133	0	0	1	1861	128	0	0	1
	20	19.9	3	2722	137	1	0	1	2709	136	1	0	1	2605	131	1	0	1
			4W	2685	135	1	0	1	2672	134	1	0	1	2569	129	1	0	1
	25	28.0	3	3749	134	1	0	1	3732	133	1	0	1	3588	128	1	0	1
			4W	3698	132	1	0	1	3680	131	1	0	1	3538	126	1	0	1
	35	36.9	3	4751	129	1	0	2	4728	128	1	0	2	4546	123	1	0	1
			4W	4685	127	1	0	2	4663	126	1	0	2	4483	121	1	0	2
	45	46.5	3	5812	125	1	0	2	5784	124	1	0	2	5562	120	1	0	2
			4W	5731	123	1	0	2	5704	123	1	0	2	5485	118	1	0	2
RWL2	45	46.1	2	6701	145	1	0	2	6668	145	1	0	2	6412	139	1	0	2
			3	6812	148	1	0	2	6780	147	1	0	2	6519	141	1	0	2
			4W	6678	145	1	0	2	6646	144	1	0	2	6390	139	1	0	2
	50	54.0	2	7747	143	1	0	2	7710	143	1	0	2	7413	137	1	0	2
			3	7876	146	1	0	2	7838	145	1	0	2	7537	140	1	0	2
			4W	7720	143	1	0	2	7683	142	1	0	2	7388	137	1	0	2
	65	67.2	2	9539	142	1	0	2	9494	141	1	0	2	9129	136	1	0	2
			3	9699	144	2	0	2	9652	144	2	0	2	9281	138	2	0	2
			4W	9507	141	2	0	2	9461	141	2	0	2	9097	135	2	0	2
	80	80.8	2	11228	139	2	0	2	11174	138	2	0	2	10745	133	2	0	2
			3	11416	141	2	0	2	11361	141	2	0	2	10924	135	2	0	2
			4W	11190	138	2	0	2	11136	138	2	0	2	10708	133	2	0	2
	95	93.2	2	13148	141	2	0	2	13085	140	2	0	2	12582	135	2	0	2
			3	13368	143	2	0	2	13304	143	2	0	2	12792	137	2	0	2
			4W	13103	141	2	0	2	13040	140	2	0	2	12539	135	2	0	2
	115	109.8	2	15102	138	2	0	3	15030	137	2	0	3	14452	132	2	0	3
			3	15354	140	2	0	3	15281	139	2	0	3	14693	134	2	0	3
			4W	15050	137	2	0	3	14978	136	2	0	3	14402	131	2	0	3
	135	137.1	2	17533	128	2	0	3	17449	127	2	0	3	16778	122	2	0	3
			3	17826	130	2	0	3	17740	129	2	0	3	17058	124	2	0	3
			4W	17473	127	2	0	3	17389	127	2	0	3	16720	122	2	0	3
	155	156.8	2	19495	124	2	0	3	19402	124	2	0	3	18656	119	2	0	3
			3	19821	126	2	0	3	19726	126	2	0	3	18967	121	2	0	3
			4W	19542	125	2	0	3	19448	124	2	0	3	18700	119	2	0	3

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL1	10	120	0.08	10.1
		208	0.05	
		240	0.04	
		277	0.04	
		347	0.03	
		480	0.02	
	15	120	0.12	14.5
		208	0.07	
		240	0.06	
		277	0.05	
		347	0.04	
		480	0.03	
	20	120	0.17	19.9
		208	0.10	
		240	0.08	
		277	0.07	
		347	0.06	
		480	0.04	
	25	120	0.23	28.0
		208	0.13	
		240	0.12	
		277	0.10	
		347	0.08	
		480	0.06	
	35	120	0.31	36.9
		208	0.18	
		240	0.15	
		277	0.13	
		347	0.11	
		480	0.08	
	45	120	0.39	46.5
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL2	45	120	0.38	46.1
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	
	50	120	0.45	54.0
		208	0.26	
		240	0.23	
		277	0.19	
		347	0.16	
		480	0.11	
	65	120	0.56	67.2
		208	0.32	
		240	0.28	
		277	0.24	
		347	0.19	
		480	0.14	
	80	120	0.67	80.8
		208	0.39	
		240	0.34	
		277	0.29	
		347	0.23	
		480	0.17	
	95	120	0.78	93.2
		208	0.45	
		240	0.39	
		277	0.34	
		347	0.27	
		480	0.19	
	115	120	0.92	109.8
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.14	137.1
		208	0.66	
		240	0.57	
		277	0.49	
		347	0.40	
		480	0.29	
	155	120	1.31	156.8
		208	0.75	
		240	0.65	
		277	0.57	
		347	0.45	
		480	0.33	

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HUBBELL®
Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

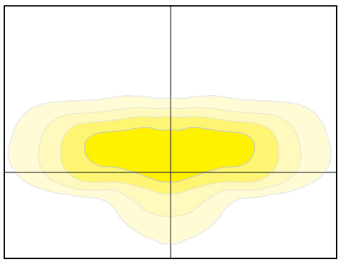
RATIO WALL

RWL1/RWL2 LED WALLPACK

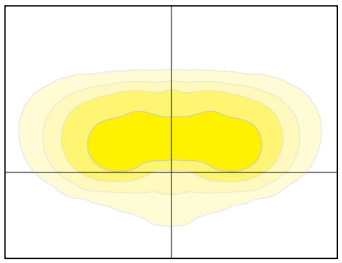
PHOTOMETRY

Mounting Height: 30ft

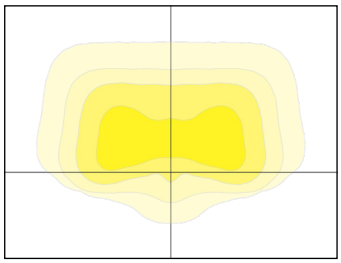
Type II



Type III

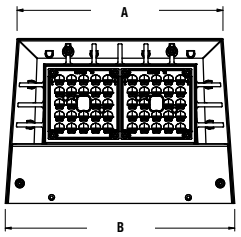


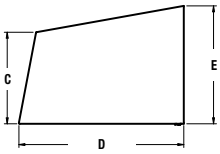
Type VI



DIMENSIONS

RWL1

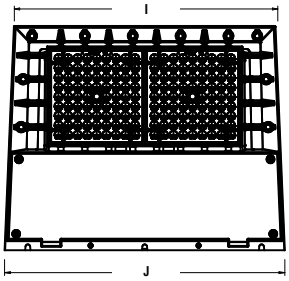


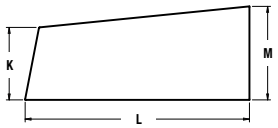


A	B	C	D	E
8.7"	9.7"	3.9"	7.0"	5.0"
221mm	246mm	99mm	178mm	127mm

Weight
6.5 lbs (2.95 kgs)

RWL2

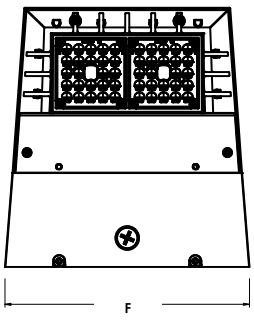


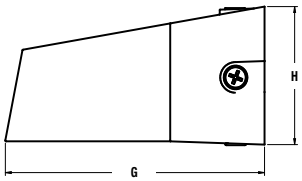


I	J	K	L	M
14.0"	15.0"	3.9"	12.0"	5.0"
356mm	381mm	99mm	305mm	127mm

Weight
16.5 lbs (7.48 kgs)

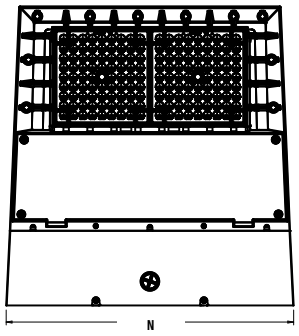
RWL1 with Integral Back Box

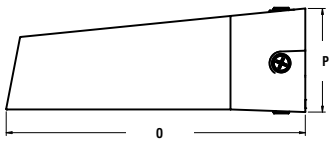




F	G	H
10.4"	11.0"	5.9"
264mm	279mm	150mm

RWL2 with Integral Back Box





N	O	P
15.4"	16.0"	5.5"
391mm	406mm	140mm

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DATE: LOCATION:

TYPE: PROJECT:

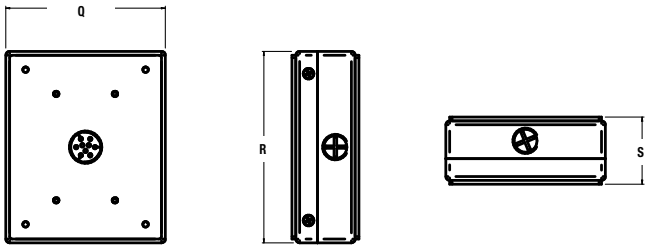
CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

DIMENSIONS (CONTINUED)

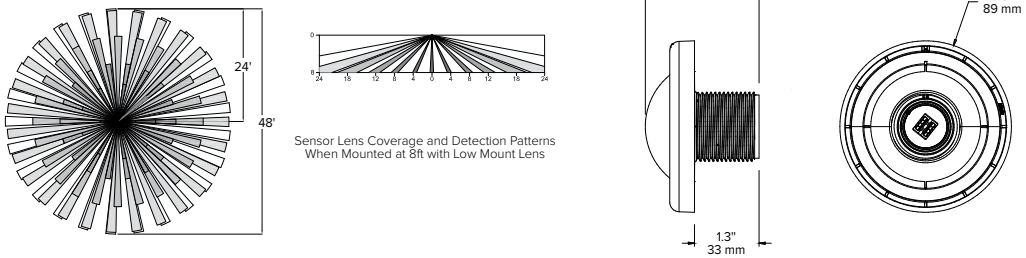
Back Box Accessory



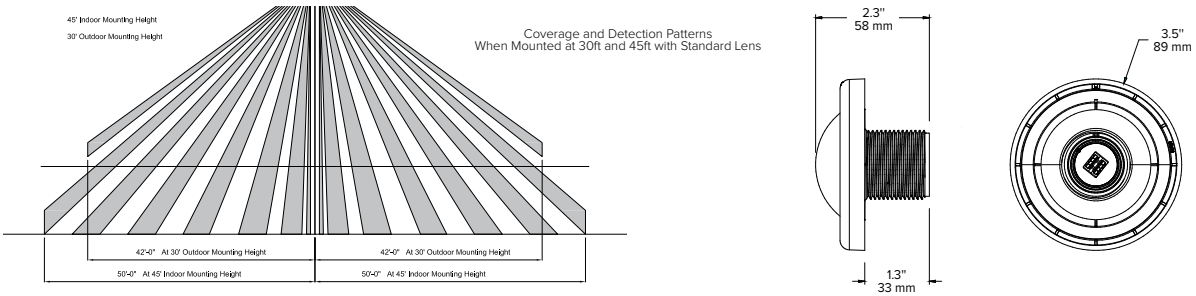
Q	R	S
4.9" 124mm	5.9" 150mm	2.1" 53mm

ADDITIONAL INFORMATION

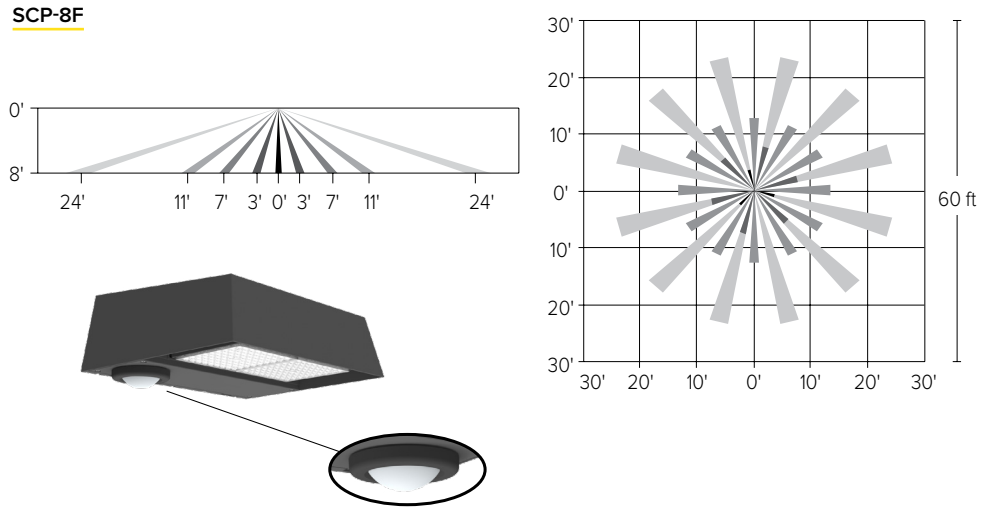
NXSP-14F



NXSP-40F



SCP-8F



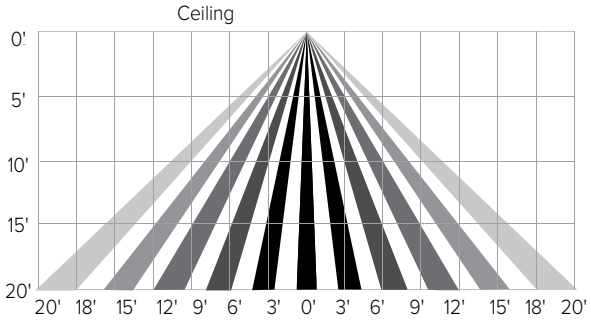
A	B
2.3" (59mm)	.8" (20mm)

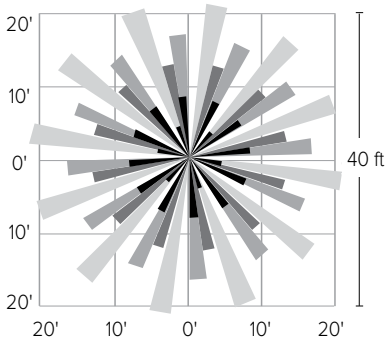
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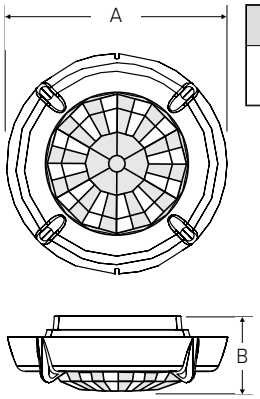
RATIO WALL

RWL1/RWL2 LED WALLPACK

SCP-20F

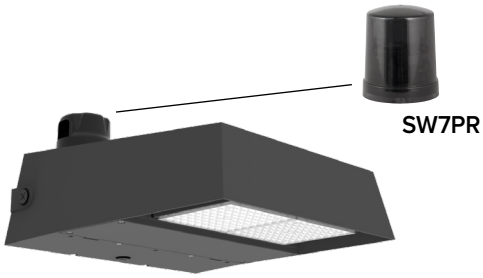






A	B
2.3" (59mm)	.8" (20mm)

SITESYNC 7-PIN MODULE



SW7PR

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)

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TYPE P4-3C

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GLEON Galleon

Area / Site Luminaire

Product Features

LumenSafe Technology

Light ARchitect™

Product Certifications

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 9

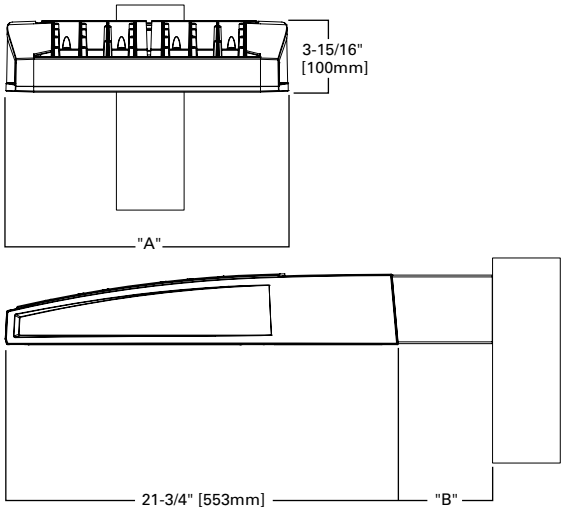
Quick Facts

- Lumen packages range from 4,200 - 80,800 (34W - 640W)
- Efficacy up to 156 lumens per watt
- Options to meet Buy American and other domestic preference requirements

Connected Systems

- WaveLinx
- Enlighted

Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length [1]	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

Ordering Information

SAMPLE NUMBER: **GLEON-SA4C-740-U-T4FT-GM**

Product Family [1, 2]	Light Engine		Color Temperature	Voltage	Distribution	Mounting	Finish
	Configuration	Drive Current					
GLEON=Galleon **BAA-GLEON**=Galleon, Buy American Act Compliant [35] **TAA-GLEON**=Galleon, Trade Agreements Act Compliant [35]	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares [4] **SA6**=6 Squares **SA7**=7 Squares [5] **SA8**=8 Squares [5] **SA9**=9 Squares [6] **SA0**=10 Squares [6]	**A**=600mA **B**=800mA **C**=1000mA **D**=1200mA [16]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K **AMB**=Amber, 590nm [14, 16]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [7, 8] **9**=347V [7]	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**[Blank]**=Arm for Round or Square Pole **EA**=Extended Arm [9] **MA**=Mast Arm Adapter [10] **WM**=Wall Mount **QM**=Quick Mount Arm (Standard Length) [11] **QML**=Quick Mount Arm (Standard Length, Large) [37] **QMEA**=Quick Mount Arm (Extended Length) [12]	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately)[35]
DIM=External 0-10V Dimming Leads [19, 20] **F**=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **20K**=Series 20kV UL 1449 Surge Protective Device **2L**=Two Circuits [17, 18] **HA**=50°C High Ambient **HSS**=Installed House Side Shield [28] **GRSBK**=Glare Reducing Shield, Black [23] **GRSWH**=Glare Reducing Shield, White [23] **LCF**=Light Square Trim Painted to Match Housing [27] **MT**=Installed Mesh Top **TH**=Tool-less Door Hardware **CC**=Coastal Construction finish [3] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **CE**=CE Marking [29] **AHD145**=After Hours Dim, 5 Hours [22] **AHD245**=After Hours Dim, 6 Hours [22] **AHD255**=After Hours Dim, 7 Hours [22] **AHD355**=After Hours Dim, 8 Hours [22] **DALI**=DALI Drivers	**BPC**=Button Type Photocontrol **PR**=NEMA 3-PIN Photocontrol Receptacle **PR7**=NEMA 7-PIN Photocontrol Receptacle [21] **SPB2**=Dimming Occupancy Sensor with Bluetooth Interface, 8' - 20' Mounting [34] **SPB4**=Dimming Occupancy Sensor with Bluetooth Interface, 21' - 40' Mounting [34] **MS-L20**=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [24] **MS-L40W**=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [24] **MS/X-L20**=Bi-Level Motion Sensor, 9' - 20' Mounting Height [24, 25] **MS/X-L40W**=Bi-Level Motion Sensor, 21' - 40' Mounting Height [24, 25] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [24] **MS/DIM-L40W**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [24] **ZW**=WaveLinx Module and 4-PIN Receptacle **ZD**=WaveLinx Module with DALI driver and 4-PIN Receptacle **SWPD4XX**=WaveLinx Sensor Only, 7'-15' [13, 32, 33] **SWPD5XX**=WaveLinx Sensor Only, 15'-40' [13, 32, 33] **WOBXX**=WaveLinx Sensor with Bluetooth, 7'-15' [13, 32] **WOFXX**=WaveLinx Sensor with Bluetooth, 15'-40' [13, 32] **LWR-LW**=Enlighted Sensor, 8'–16' Mounting Height [26] **LWR-LN**=Enlighted Sensor, 16'–40' Mounting Height [26] **DIM10-MS/DIM-L08**=Synapse Occupancy Sensor (<8' Mounting) [19] **DIM10-MS/DIM-L20**=Synapse Occupancy Sensor (9'-20' Mounting) [19] **DIM10-MS/DIM-L40**=Synapse Occupancy Sensor (21'-40' Mounting) [19]	**OA/RA1016**=NEMA Photocontrol Multi-Tap - 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=120V Photocontrol **MA1252**=10kV Surge Module Replacement **MA1036-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1037-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1197-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1038-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1039-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1192-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [24] **GLEON-MT1**=Field Installed Mesh Top for 1-4 Light Squares **GLEON-MT2**=Field Installed Mesh Top for 5-6 Light Squares **GLEON-MT3**=Field Installed Mesh Top for 7-8 Light Squares **GLEON-MT4**=Field Installed Mesh Top for 9-10 Light Squares **GLEON-QM**=Quick Mount Arm Kit [11] **GLEON-QMEA**=Quick Mount Extended Arm Kit [12] **LS/HSS**=Field Installed House Side Shield [28, 30] **LS/GRSBK**=Glare Reducing Shield, Black [23, 30] **LS/GRSWH**=Glare Reducing Shield, White [23, 30] **LS/PFS**=Perimeter Shield, Black [15] **WOLC-7P-10A**=WaveLinx Outdoor Control Module [19, 31] **SWPD4-XX**=Wavelinx Wireless Sensor, 7'–15' Mounting Height [13, 19, 32, 33] **SWPD5-XX**=Wavelinx Wireless Sensor, 15'–40' Mounting Height [13, 19, 32, 33]

NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654. Not available with TH option.
4. Not compatible with MS/4-LXX or MS/1-LXX sensors.
5. Not compatible with extended quick mount arm (QMEA).
6. Not compatible with standard quick mount arm (QM) or extended quick mount arm (QMEA).
7. Requires the use of an internal step down transformer when combined with sensor options. Not available with sensor at 1200mA. Not available in combination with the HA high ambient and sensor options at 1A.
8. 480V must utilize Wye system only. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems.)
9. May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
10. Factory installed.
11. Maximum 8 light squares.
12. Maximum 6 light squares.
13. Requires ZW or ZD receptacle.
14. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A; supplied at 500mA drive current only. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
15. Set of 4 pcs. One set required per Light Square.
16. Not available with HA option.
17. 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in SA2 through SA4 requires a larger housing, normally used for SA5 or SA6. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
18. Not available with Enlighted wireless sensors.
19. Cannot be used with other control options.
20. Low voltage control lead brought out 18" outside fixture.
21. Not available if any "MS" sensor is selected. Motion sensor has an integral photocell.
22. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
23. Not for use with T4FT, T4W or SL4 optics. See IES files for details.
24. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
25. Replace X with number of Light Squares operating in low output mode.
26. Enlighted wireless sensors are factory installed only requiring network components LWP-EM-1, LWP-GW-1 and LWP-PoE8 in appropriate quantities.
27. Not available with house side shield (HSS).
28. Not for use with 5NQ, 5MQ, 5WQ or RW optics. A black trim plate is used when HSS is selected.
29. CE is not available with the LWR, MS, MS/X, MS/DIM, BPC, PR or PR7 options. Available in 120-277V only.
30. One required for each Light Square.
31. Requires PR7.
32. Replace XX with sensor color (WH, BZ or BK.)
33. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed.
34. Smart device with mobile application required to change system defaults. See controls section for details.
35. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
36. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
37. Available for 7-10 squares.

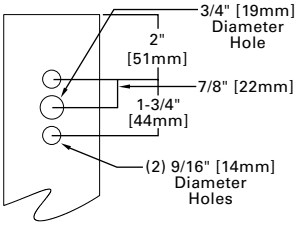
LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul	
L=LumenSafe Technology	**D**=Standard Dome Camera **H**=Hi-Res Dome Camera **Z**=Remote PTZ Camera	**C**=Cellular, No SIM **A**=Cellular, AT&T **V**=Cellular, Verizon **S**=Cellular, Sprint	**R**=Cellular, Rogers **W**=Wi-Fi Networking w/ Omni-Directional Antenna **E**=Ethernet Networking

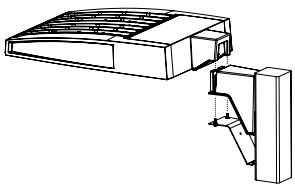
Mounting Details

Standard Arm (Drilling Pattern)

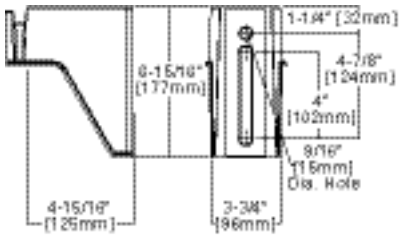
TYPE "N"



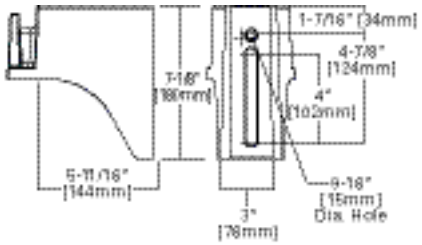
Quick Mount Arm (Includes fixture adapter)



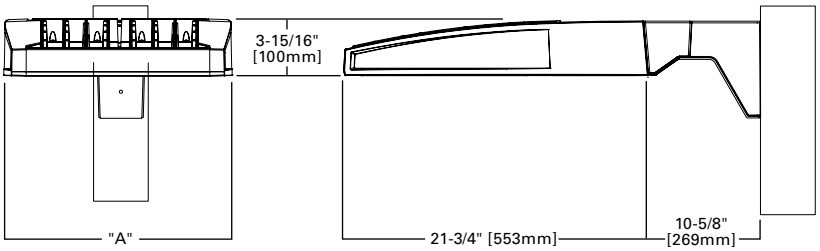
QM and QMEA Pole Mount



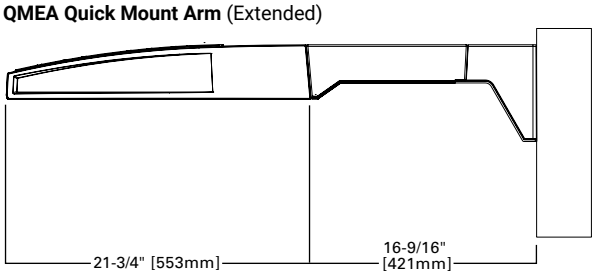
QML Pole Mount



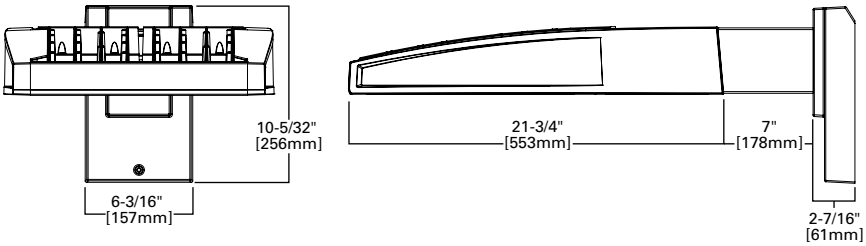
QM Quick Mount Arm (Standard)



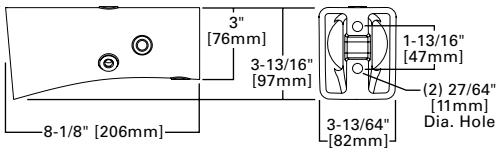
QMEA Quick Mount Arm (Extended)



Standard Wall Mount

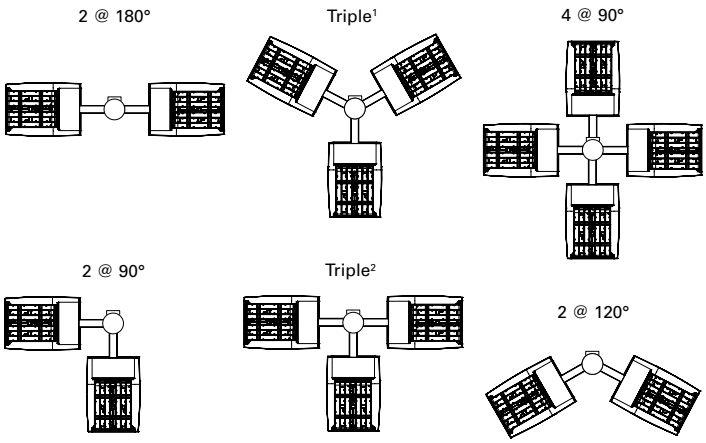


Mast Arm Mount



Arm Mounting Requirements

Number of Light Squares	Standard Arm @ 90° Apart	Standard Arm @ 120° Apart	Quick Mount Arm @ 90° Apart	Quick Mount Arm @ 120° Apart
1	Standard	Standard	QM Extended	Quick Mount
2	Standard	Standard	QM Extended	Quick Mount
3	Standard	Standard	QM Extended	Quick Mount
4	Standard	Standard	QM Extended	Quick Mount
5	Extended	Standard	QM Extended	Quick Mount
6	Extended	Standard	QM Extended	Quick Mount
7	Extended	Extended	--	Quick Mount
8	Extended	Extended	--	Quick Mount
9	Extended	Extended	--	--
10	Extended	Extended	--	--



NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. **2** Round poles are 3 @ 90°. **3** Shown with 4 square configurations.

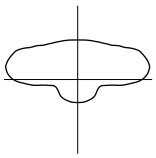
Fixture Weights and EPAs

Number of Light Squares	Weight with Standard and Extended Arm (lbs.)	EPA with Standard and Extended Arm (Sq. Ft.)	Weight with QM Arm (lbs.)	EPA with QM Arm (Sq. Ft.)	Weight with QML (lbs.)	EPA with QML (Sq. Ft.)	Weight with QMEA (lbs.)	EPA with QMEA (Sq. Ft.)
1-4	33	0.96	35	1.11	--	--	38	1.11
5-6	44	1.00	46	1.11	--	--	49	1.11
7-8	54	1.07	56	1.11	58	1.11	--	--
9-10	63	1.12	--	--	67	1.11	--	--

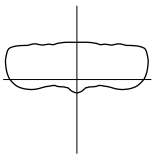
Optical Distributions

Asymmetric Area Distributions

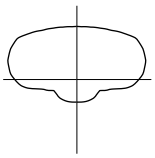
T2 (Type II)



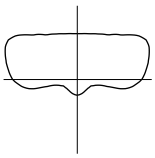
SL2 (Type II with Spill Control)



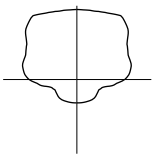
T3 (Type III)



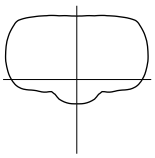
SL3 (Type III with Spill Control)



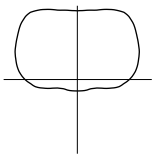
T4FT (Type IV Forward Throw)



T4W (Type IV Wide)

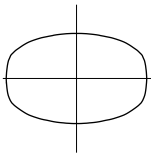


SL4 (Type IV with Spill Control)

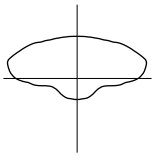


Asymmetric Roadway Distributions

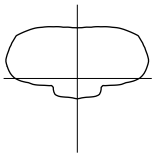
RW (Rectangular Wide Type I)



T2R (Type II Roadway)

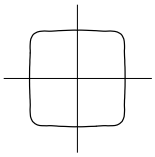


T3R (Type III Roadway)

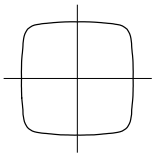


Symmetric Distributions

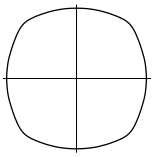
5NQ (Type V Square Narrow)



5MQ (Type V Square Medium)

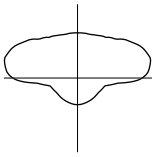


5WQ (Type V Square Wide)

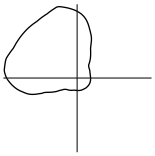


Specialized Distributions

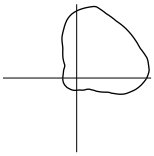
AFL (Automotive Frontline)



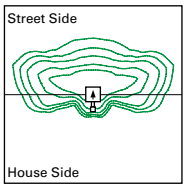
SLL (90° Spill Light Eliminator Left)



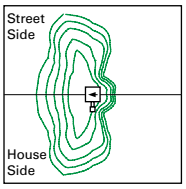
SLR (90° Spill Light Eliminator Right)



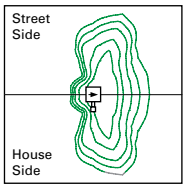
Rotated Optics



Standard



Optics Rotated Left @ 90° [L90]



Optics Rotated Right @ 90° [R90]

Product Specifications

Construction

- Extruded aluminum driver enclosure
- Heavy-wall, die-cast aluminum end caps
- Die-cast aluminum heat sinks
- Patent pending interlocking housing and heat sink

Optics

- Patented, high-efficiency injection-molded AccuLED Optics technology
- 16 optical distributions
- 3 shielding options including HSS, GRS and PFS
- IDA Certified (3000K CCT and warmer only)

Electrical

- LED drivers are mounted to removable tray assembly for ease of maintenance
- Standard with 0-10V dimming
- Standard with Cooper Lighting Solutions proprietary circuit module designed to withstand 10kV of transient line surge
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration.

Mounting

- Standard extruded arm includes internal bolt guides and round pole adapter
- Extended arms (EA and QMEA) may be required in 90° or 120° pole mount configurations, see arm mounting requirements table
- Mast arm (MA) factory installed
- Wall mount (WM) option available
- Quick mount arm (QM and QMEA) includes pole adapter and factory installed fixture mount for fast installation to square or round poles

Finish

- Super housing durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Heat sink is powder coated black
- RAL and custom color matches available
- Coastal Construction (CC) option available

Warranty

- Five year warranty

Energy and Performance Data

Lumen Maintenance (TM-21)

Drive Current	Ambient Temperature	25,000 hours*	50,000 hours*	60,000 hours*	100,000 hours**	Theoretical L70 hours**
Up to 1A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.7%	98.3%	98.1%	97.4%	> 1.9M
	50°C	98.2%	97.2%	96.8%	95.2%	> 851,000
1.2A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.5%	97.9%	97.7%	96.7%	> 1.3M

* Supported by IES TM-21 standards
** Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, explaining proper use of IES TM-21 and LM-80.

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

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Nominal Power Lumens (1.2A)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		67	129	191	258	320	382	448	511	575	640
Input Current @ 120V (A)		0.58	1.16	1.78	2.31	2.94	3.56	4.09	4.71	5.34	5.87
Input Current @ 208V (A)		0.33	0.63	0.93	1.27	1.57	1.87	2.22	2.52	2.8	3.14
Input Current @ 240V (A)		0.29	0.55	0.80	1.10	1.35	1.61	1.93	2.18	2.41	2.71
Input Current @ 277V (A)		0.25	0.48	0.70	0.96	1.18	1.39	1.69	1.90	2.09	2.36
Input Current @ 347V (A)		0.20	0.39	0.57	0.78	0.96	1.15	1.36	1.54	1.72	1.92
Input Current @ 480V (A)		0.15	0.30	0.43	0.60	0.73	0.85	1.03	1.16	1.28	1.45
Optics											
T2	4000K Lumens	7,972	15,580	23,245	30,714	38,056	45,541	53,857	61,024	68,072	75,366
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	121	122	119	119	119	120	119	118	118
T2R	4000K Lumens	8,462	16,539	24,680	32,609	40,401	48,348	57,176	64,783	72,266	80,010
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	129	126	126	127	128	127	126	125
T3	4000K Lumens	8,125	15,879	23,693	31,307	38,787	46,417	54,893	62,197	69,381	76,818
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	123	124	121	121	122	123	122	121	120
T3R	4000K Lumens	8,306	16,232	24,220	32,001	39,651	47,447	56,114	63,580	70,924	78,523
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	126	127	124	124	124	125	124	123	123
T4FT	4000K Lumens	8,173	15,970	23,831	31,488	39,014	46,686	55,212	62,558	69,783	77,261
	BUG Rating	B1-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	122	124	125	122	122	122	123	122	121	121
T4W	4000K Lumens	8,067	15,764	23,522	31,080	38,510	46,082	54,499	61,751	68,881	76,263
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	120	122	123	120	120	121	122	121	120	119
SL2	4000K Lumens	7,958	15,552	23,206	30,662	37,989	45,462	53,763	60,920	67,952	75,235
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	121	121	119	119	119	120	119	118	118
SL3	4000K Lumens	8,124	15,877	23,690	31,302	38,784	46,410	54,885	62,189	69,372	76,805
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	123	124	121	121	121	123	122	121	120
SL4	4000K Lumens	7,719	15,085	22,510	29,741	36,850	44,097	52,148	59,089	65,913	72,977
	BUG Rating	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	115	117	118	115	115	115	116	116	115	114
5NQ	4000K Lumens	8,380	16,375	24,436	32,287	40,003	47,870	56,610	64,144	71,552	79,221
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	125	127	128	125	125	125	126	126	124	124
5MQ	4000K Lumens	8,534	16,676	24,885	32,881	40,739	48,752	57,653	65,326	72,868	80,679
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	127	129	130	127	127	128	129	128	127	126
5WQ	4000K Lumens	8,556	16,723	24,951	32,968	40,847	48,881	57,808	65,499	73,063	80,894
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	128	130	131	128	128	128	129	128	127	126
SLL/ SLR	4000K Lumens	7,140	13,951	20,817	27,506	34,081	40,783	48,231	54,649	60,959	67,492
	BUG Rating	B1-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	107	108	109	107	107	107	108	107	106	105
RW	4000K Lumens	8,304	16,228	24,215	31,994	39,641	47,437	56,100	63,566	70,907	78,504
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	124	126	127	124	124	124	125	124	123	123
AFL	4000K Lumens	8,335	16,287	24,302	32,110	39,784	47,610	56,303	63,796	71,163	78,790
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G5
	Lumens per Watt	124	126	127	124	124	125	126	125	124	123

*** Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.**

Nominal Power Lumens (1A)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		59	113	166	225	279	333	391	445	501	558
Input Current @ 120V (A)		0.51	1.02	1.53	2.03	2.55	3.06	3.56	4.08	4.60	5.07
Input Current @ 208V (A)		0.29	0.56	0.82	1.11	1.37	1.64	1.93	2.19	2.46	2.75
Input Current @ 240V (A)		0.26	0.48	0.71	0.96	1.19	0.41	1.67	1.89	2.12	2.39
Input Current @ 277V (A)		0.23	0.42	0.61	0.83	1.03	1.23	1.45	1.65	1.84	2.09
Input Current @ 347V (A)		0.17	0.32	0.50	0.64	0.82	1.00	1.14	1.32	1.50	1.68
Input Current @ 480V (A)		0.14	0.24	0.37	0.48	0.61	0.75	0.91	0.99	1.12	1.28
Optics											
T2	4000K Lumens	7,267	14,201	21,190	28,000	34,692	41,515	49,096	55,627	62,053	68,703
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	126	128	124	124	125	126	125	124	123
T2R	4000K Lumens	7,715	15,077	22,497	29,725	36,829	44,073	52,122	59,056	65,876	72,937
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	133	136	132	132	132	133	133	131	131
T3	4000K Lumens	7,408	14,475	21,598	28,539	35,358	42,313	50,039	56,698	63,246	70,024
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	130	127	127	127	128	127	126	125
T3R	4000K Lumens	7,571	14,798	22,078	29,172	36,145	43,253	51,153	57,959	64,653	71,581
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	128	131	133	130	130	130	131	130	129	128
T4FT	4000K Lumens	7,451	14,559	21,725	28,703	35,564	42,558	50,330	57,027	63,613	70,430
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	129	131	128	127	128	129	128	127	126
T4W	4000K Lumens	7,354	14,371	21,442	28,333	35,105	42,007	49,681	56,291	62,792	69,521
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	127	129	126	126	126	127	126	125	125
SL2	4000K Lumens	7,254	14,178	21,155	27,951	34,631	41,443	49,011	55,533	61,944	68,584
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	125	127	124	124	124	125	125	124	123
SL3	4000K Lumens	7,406	14,474	21,596	28,534	35,355	42,307	50,033	56,690	63,237	70,014
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	130	127	127	127	128	127	126	125
SL4	4000K Lumens	7,037	13,751	20,519	27,112	33,592	40,198	47,538	53,864	60,087	66,524
	BUG Rating	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	119	122	124	120	120	121	122	121	120	119
5NQ	4000K Lumens	7,640	14,928	22,275	29,431	36,465	43,637	51,606	58,472	65,226	72,218
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	129	132	134	131	131	131	132	131	130	129
5MQ	4000K Lumens	7,779	15,203	22,684	29,973	37,137	44,441	52,555	59,549	66,427	73,545
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	132	135	137	133	133	133	134	134	133	132
5WQ	4000K Lumens	7,800	15,243	22,744	30,052	37,236	44,560	52,697	59,708	66,603	73,742
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	132	135	137	134	133	134	135	134	133	132
SLL/ SLR	4000K Lumens	6,510	12,719	18,977	25,075	31,067	37,176	43,967	49,817	55,569	61,525
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	110	113	114	111	111	112	112	112	111	110
RW	4000K Lumens	7,570	14,793	22,073	29,165	36,137	43,243	51,140	57,945	64,637	71,564
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	128	131	133	130	130	130	131	130	129	128
AFL	4000K Lumens	7,598	14,847	22,154	29,272	36,267	43,400	51,326	58,156	64,872	71,824
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	129	131	133	130	130	130	131	131	129	129

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Nominal Power Lumens (800mA)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		44	85	124	171	210	249	295	334	374	419
Input Current @ 120V (A)		0.39	0.77	1.13	1.54	1.90	2.26	2.67	3.03	3.39	3.80
Input Current @ 208V (A)		0.22	0.44	0.62	0.88	1.06	1.24	1.50	1.68	1.87	2.12
Input Current @ 240V (A)		0.19	0.38	0.54	0.76	0.92	1.08	1.30	1.46	1.62	1.84
Input Current @ 277V (A)		0.17	0.36	0.47	0.72	0.83	0.95	1.19	1.31	1.42	1.67
Input Current @ 347V (A)		0.15	0.24	0.38	0.49	0.63	0.77	0.87	1.01	1.15	1.52
Input Current @ 480V (A)		0.11	0.18	0.29	0.37	0.48	0.59	0.66	0.77	0.88	0.96
Optics											
T2	4000K Lumens	5,871	11,474	17,121	22,622	28,029	33,542	39,667	44,944	50,134	55,508
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	133	135	138	132	133	135	134	135	134	132
T2R	4000K Lumens	6,233	12,181	18,176	24,016	29,756	35,608	42,111	47,714	53,224	58,929
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	142	143	147	140	142	143	143	143	142	141
T3	4000K Lumens	5,986	11,695	17,450	23,057	28,568	34,186	40,430	45,809	51,099	56,576
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	136	138	141	135	136	137	137	137	137	135
T3R	4000K Lumens	6,117	11,955	17,838	23,569	29,203	34,946	41,328	46,827	52,235	57,832
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	139	141	144	138	139	140	140	140	140	138
T4FT	4000K Lumens	6,019	11,763	17,551	23,190	28,734	34,384	40,663	46,074	51,396	56,904
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	137	138	142	136	137	138	138	138	137	136
T4W	4000K Lumens	5,942	11,610	17,324	22,891	28,363	33,940	40,138	45,480	50,732	56,169
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	135	137	140	134	135	136	136	136	136	134
SL2	4000K Lumens	5,862	11,454	17,091	22,583	27,980	33,484	39,598	44,867	50,048	55,411
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	133	135	138	132	133	134	134	134	134	132
SL3	4000K Lumens	5,985	11,694	17,447	23,053	28,565	34,182	40,424	45,804	51,092	56,568
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	136	138	141	135	136	137	137	137	137	135
SL4	4000K Lumens	5,685	11,111	16,577	21,905	27,140	32,478	38,409	43,520	48,546	53,748
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	129	131	134	128	129	130	130	130	130	128
5NQ	4000K Lumens	6,172	12,061	17,997	23,778	29,462	35,256	41,694	47,242	52,699	58,347
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	140	142	145	139	140	142	141	141	141	139
5MQ	4000K Lumens	6,285	12,283	18,328	24,217	30,004	35,907	42,462	48,112	53,669	59,421
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	143	145	148	142	143	144	144	144	144	142
5WQ	4000K Lumens	6,303	12,317	18,377	24,281	30,085	36,001	42,575	48,241	53,812	59,579
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	143	145	148	142	143	145	144	144	144	142
SLL/ SLR	4000K Lumens	5,260	10,276	15,332	20,259	25,101	30,037	35,522	40,249	44,898	49,708
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	120	121	124	118	120	121	120	121	120	119
RW	4000K Lumens	6,116	11,952	17,834	23,563	29,196	34,938	41,317	46,817	52,224	57,819
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	139	141	144	138	139	140	140	140	140	138
AFL	4000K Lumens	6,139	11,996	17,899	23,650	29,302	35,064	41,468	46,987	52,412	58,030
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
	Lumens per Watt	140	141	144	138	140	141	141	141	140	138

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Nominal Power Lumens (600mA)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		34	66	96	129	162	193	226	257	290	323
Input Current @ 120V (A)		0.30	0.58	0.86	1.16	1.44	1.73	2.03	2.33	2.59	2.89
Input Current @ 208V (A)		0.17	0.34	0.49	0.65	0.84	0.99	1.14	1.30	1.48	1.63
Input Current @ 240V (A)		0.15	0.30	0.43	0.56	0.74	0.87	1.00	1.13	1.30	1.43
Input Current @ 277V (A)		0.14	0.28	0.41	0.52	0.69	0.81	0.93	1.04	1.22	1.33
Input Current @ 347V (A)		0.11	0.19	0.30	0.39	0.49	0.60	0.69	0.77	0.90	0.99
Input Current @ 480V (A)		0.08	0.15	0.24	0.30	0.38	0.48	0.53	0.59	0.71	0.77
Optics											
T2	4000K Lumens	4,787	9,357	13,961	18,448	22,856	27,353	32,347	36,651	40,884	45,265
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	141	142	145	143	141	142	143	143	141	140
T2R	4000K Lumens	5,083	9,934	14,822	19,585	24,266	29,038	34,341	38,911	43,404	48,055
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	150	151	154	152	150	150	152	151	150	149
T3	4000K Lumens	4,880	9,537	14,231	18,803	23,296	27,878	32,970	37,358	41,671	46,137
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	144	145	148	146	144	144	146	145	144	143
T3R	4000K Lumens	4,988	9,749	14,547	19,220	23,814	28,497	33,703	38,188	42,598	47,162
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	147	148	152	149	147	148	149	149	147	146
T4FT	4000K Lumens	4,909	9,591	14,312	18,911	23,432	28,040	33,161	37,574	41,913	46,404
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	144	145	149	147	145	145	147	146	145	144
T4W	4000K Lumens	4,845	9,468	14,128	18,668	23,130	27,678	32,732	37,088	41,371	45,805
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	143	143	147	145	143	143	145	144	143	142
SL2	4000K Lumens	4,779	9,341	13,937	18,416	22,818	27,305	32,292	36,589	40,813	45,188
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	141	142	145	143	141	141	143	142	141	140
SL3	4000K Lumens	4,879	9,536	14,229	18,800	23,294	27,874	32,965	37,351	41,666	46,130
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	144	144	148	146	144	144	146	145	144	143
SL4	4000K Lumens	4,637	9,059	13,519	17,863	22,132	26,486	31,322	35,490	39,589	43,831
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	136	137	141	138	137	137	139	138	137	136
5NQ	4000K Lumens	5,033	9,835	14,676	19,392	24,026	28,751	34,002	38,526	42,975	47,581
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	148	149	153	150	148	149	150	150	148	147
5MQ	4000K Lumens	5,126	10,015	14,946	19,747	24,468	29,281	34,628	39,236	43,766	48,457
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	151	152	156	153	151	152	153	153	151	150
5WQ	4000K Lumens	5,139	10,043	14,985	19,801	24,533	29,359	34,721	39,339	43,883	48,586
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	151	152	156	153	151	152	154	153	151	150
SLL/ SLR	4000K Lumens	4,289	8,380	12,502	16,520	20,469	24,494	28,967	32,823	36,613	40,537
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	126	127	130	128	126	127	128	128	126	126
RW	4000K Lumens	4,987	9,746	14,543	19,215	23,808	28,491	33,695	38,178	42,587	47,151
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	147	148	151	149	147	148	149	149	147	146
AFL	4000K Lumens	5,007	9,782	14,597	19,285	23,896	28,594	33,817	38,317	42,742	47,322
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	147	148	152	149	148	148	150	149	147	147

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Control Options

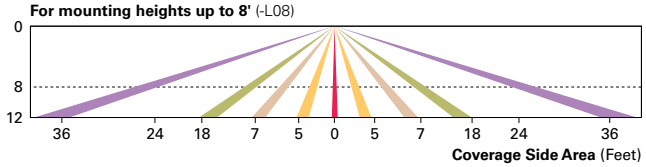
0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (BPC, PR and PR7)
Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB, MS/DIM-LXX, MS/X-LXX and MS-LXX)
These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM occupancy sensors require the FSIR-100 programming tool to adjust factory defaults.

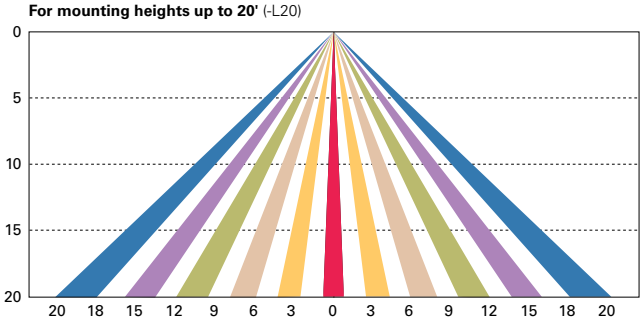
For mounting heights up to 8' (-L08)



For mounting heights up to 40' (-L40W)

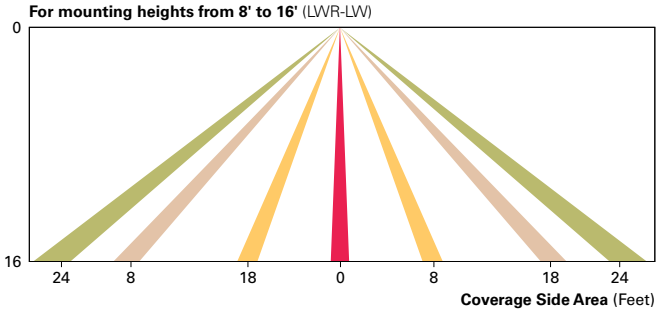


For mounting heights up to 20' (-L20)

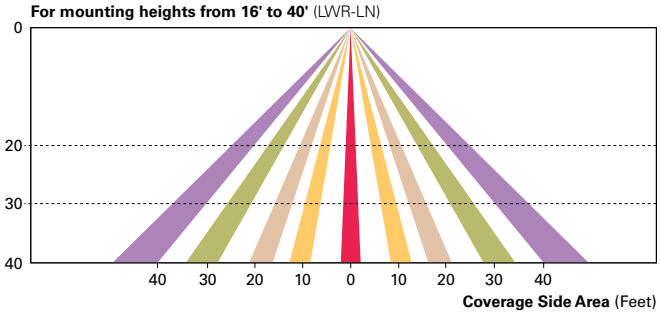


Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN)
Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting.

For mounting heights from 8' to 16' (LWR-LW)



For mounting heights from 16' to 40' (LWR-LN)



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A)
The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

LumenSafe Integrated Network Security Camera (LD)
Cooper Lighting Solutions brings ease of camera deployment to a whole new level. No additional wiring is needed beyond providing line power to the luminaire. A variety of networking options allows security integrators to design the optimal solution for active surveillance. As the ideal solution to meet the needs for active surveillance, the LumenSafe integrated network camera is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. This IP camera is optimally designed for deployment in the video management system or security software platform of choice.

Synapse (DIM10)
SimplySNAP integrated wireless controls system by Synapse. Includes factory installed DIM10 Synapse control module and MS/DC motion sensor; requires additional Synapse system components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

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Specifications and dimensions
subject to change without notice.

TYPE P5W-3C

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GLEON Galleon

Area / Site Luminaire

Product Features

LumenSafe Technology

Light ARchitect™

Product Certifications

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 9

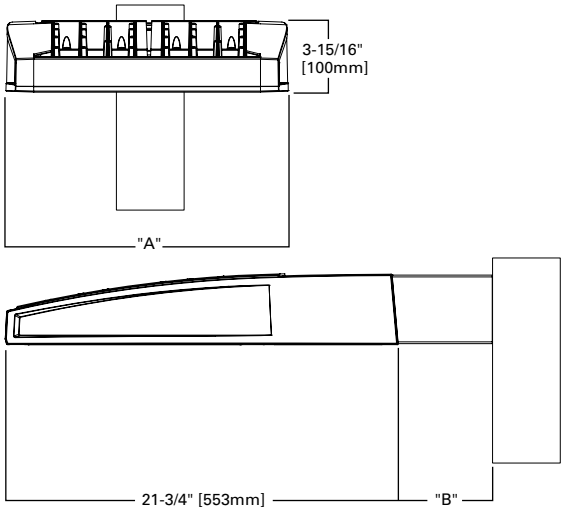
Quick Facts

- Lumen packages range from 4,200 - 80,800 (34W - 640W)
- Efficacy up to 156 lumens per watt
- Options to meet Buy American and other domestic preference requirements

Connected Systems

- WaveLinx
- Enlighted

Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length [1]	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

Ordering Information

SAMPLE NUMBER: **GLEON-SA4C-740-U-T4FT-GM**

Product Family [1, 2]	Light Engine		Color Temperature	Voltage	Distribution	Mounting	Finish
	Configuration	Drive Current					
GLEON=Galleon **BAA-GLEON**=Galleon, Buy American Act Compliant [35] **TAA-GLEON**=Galleon, Trade Agreements Act Compliant [35]	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares [4] **SA6**=6 Squares **SA7**=7 Squares [5] **SA8**=8 Squares [5] **SA9**=9 Squares [6] **SA0**=10 Squares [6]	**A**=600mA **B**=800mA **C**=1000mA **D**=1200mA [16]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K **AMB**=Amber, 590nm [14, 16]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [7, 8] **9**=347V [7]	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**[Blank]**=Arm for Round or Square Pole **EA**=Extended Arm [9] **MA**=Mast Arm Adapter [10] **WM**=Wall Mount **QM**=Quick Mount Arm (Standard Length) [11] **QML**=Quick Mount Arm (Standard Length, Large) [37] **QMEA**=Quick Mount Arm (Extended Length) [12]	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)

DIM=External 0-10V Dimming Leads [19, 20]
F=Single Fuse (120, 277 or 347V Specify Voltage)
FF=Double Fuse (208, 240 or 480V Specify Voltage)
20K=Series 20kV UL 1449 Surge Protective Device
2L=Two Circuits [17, 18]
HA=50°C High Ambient
HSS=Installed House Side Shield [28]
GRSBK=Glare Reducing Shield, Black [23]
GRSWH=Glare Reducing Shield, White [23]
LCF=Light Square Trim Painted to Match Housing [27]
MT=Installed Mesh Top
TH=Tool-less Door Hardware
CC=Coastal Construction finish [3]
L90=Optics Rotated 90° Left
R90=Optics Rotated 90° Right
CE=CE Marking [29]
AHD145=After Hours Dim, 5 Hours [22]
AHD245=After Hours Dim, 6 Hours [22]
AHD255=After Hours Dim, 7 Hours [22]
AHD355=After Hours Dim, 8 Hours [22]
DALI=DALI Drivers

Controls and Systems Options (Add as Suffix)

BPC=Button Type Photocontrol
PR=NEMA 3-PIN Photocontrol Receptacle
PR7=NEMA 7-PIN Photocontrol Receptacle [21]
SPB2=Dimming Occupancy Sensor with Bluetooth Interface, 8' - 20' Mounting [34]
SPB4=Dimming Occupancy Sensor with Bluetooth Interface, 21' - 40' Mounting [34]
MS-L20=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [24]
MS-L40W=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [24]
MS/X-L20=Bi-Level Motion Sensor, 9' - 20' Mounting Height [24, 25]
MS/X-L40W=Bi-Level Motion Sensor, 21' - 40' Mounting Height [24, 25]
MS/DIM-L20=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [24]
MS/DIM-L40W=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [24]
ZW=WaveLinx Module and 4-PIN Receptacle
ZD=WaveLinx Module with DALI driver and 4-PIN Receptacle
SWPD4XX=WaveLinx Sensor Only, 7'-15' [13, 32, 33]
SWPD5XX=WaveLinx Sensor Only, 15'-40' [13, 32, 33]
WOBXX=WaveLinx Sensor with Bluetooth, 7'-15' [13, 32]
WOFXX=WaveLinx Sensor with Bluetooth, 15'-40' [13, 32]
LWR-LW=Enlighted Sensor, 8'–16' Mounting Height [26]
LWR-LN=Enlighted Sensor, 16'–40' Mounting Height [26]
DIM10-MS/DIM-L08=Synapse Occupancy Sensor (<8' Mounting) [19]
DIM10-MS/DIM-L20=Synapse Occupancy Sensor (9'-20' Mounting) [19]
DIM10-MS/DIM-L40=Synapse Occupancy Sensor (21'-40' Mounting) [19]

Accessories (Order Separately) [35]

OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V
OA/RA1027=NEMA Photocontrol - 480V
OA/RA1201=NEMA Photocontrol - 347V
OA/RA1013=Photocontrol Shorting Cap
OA/RA1014=120V Photocontrol
MA1252=10kV Surge Module Replacement
MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon
MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon
MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon
MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon
MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon
MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon
FSIR-100=Wireless Configuration Tool for Occupancy Sensor [24]
GLEON-MT1=Field Installed Mesh Top for 1-4 Light Squares
GLEON-MT2=Field Installed Mesh Top for 5-6 Light Squares
GLEON-MT3=Field Installed Mesh Top for 7-8 Light Squares
GLEON-MT4=Field Installed Mesh Top for 9-10 Light Squares
GLEON-QM=Quick Mount Arm Kit [11]
GLEON-QMEA=Quick Mount Extended Arm Kit [12]
LS/HSS=Field Installed House Side Shield [28, 30]
LS/GRSBK=Glare Reducing Shield, Black [23, 30]
LS/GRSWH=Glare Reducing Shield, White [23, 30]
LS/PFS=Perimeter Shield, Black [15]
WOLC-7P-10A=WaveLinx Outdoor Control Module [19, 31]
SWPD4-XX=Wavelinx Wireless Sensor, 7'–15' Mounting Height [13, 19, 32, 33]
SWPD5-XX=Wavelinx Wireless Sensor, 15'–40' Mounting Height [13, 19, 32, 33]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654. Not available with TH option.
4. Not compatible with MS/4-LXX or MS/1-LXX sensors.
5. Not compatible with extended quick mount arm (QMEA).
6. Not compatible with standard quick mount arm (QM) or extended quick mount arm (QMEA).
7. Requires the use of an internal step down transformer when combined with sensor options. Not available with sensor at 1200mA. Not available in combination with the HA high ambient and sensor options at 1A.
8. 480V must utilize Wye system only. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems.)
9. May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
10. Factory installed.
11. Maximum 8 light squares.
12. Maximum 6 light squares.
13. Requires ZW or ZD receptacle.
14. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A; supplied at 500mA drive current only. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
15. Set of 4 pcs. One set required per Light Square.
16. Not available with HA option.
17. 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in SA2 through SA4 requires a larger housing, normally used for SA5 or SA6. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
18. Not available with Enlighted wireless sensors.
19. Cannot be used with other control options.
20. Low voltage control lead brought out 18" outside fixture.
21. Not available if any "MS" sensor is selected. Motion sensor has an integral photocell.
22. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
23. Not for use with T4FT, T4W or SL4 optics. See IES files for details.
24. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
25. Replace X with number of Light Squares operating in low output mode.
26. Enlighted wireless sensors are factory installed only requiring network components LWP-EM-1, LWP-GW-1 and LWP-PoE8 in appropriate quantities.
27. Not available with house side shield (HSS).
28. Not for use with 5NQ, 5MQ, 5WQ or RW optics. A black trim plate is used when HSS is selected.
29. CE is not available with the LWR, MS, MS/X, MS/DIM, BPC, PR or PR7 options. Available in 120-277V only.
30. One required for each Light Square.
31. Requires PR7.
32. Replace XX with sensor color (WH, BZ or BK.)
33. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed.
34. Smart device with mobile application required to change system defaults. See controls section for details.
35. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
36. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
37. Available for 7-10 squares.

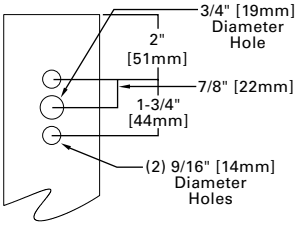
LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul	
L=LumenSafe Technology	**D**=Standard Dome Camera **H**=Hi-Res Dome Camera **Z**=Remote PTZ Camera	**C**=Cellular, No SIM **A**=Cellular, AT&T **V**=Cellular, Verizon **S**=Cellular, Sprint	**R**=Cellular, Rogers **W**=Wi-Fi Networking w/ Omni-Directional Antenna **E**=Ethernet Networking

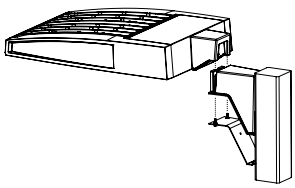
Mounting Details

Standard Arm (Drilling Pattern)

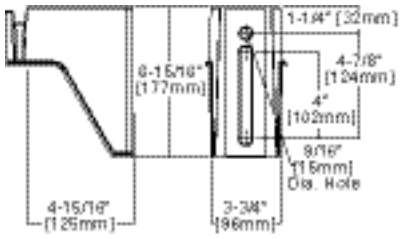
TYPE "N"



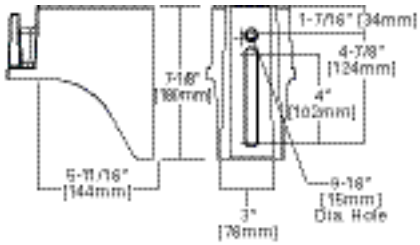
Quick Mount Arm (Includes fixture adapter)



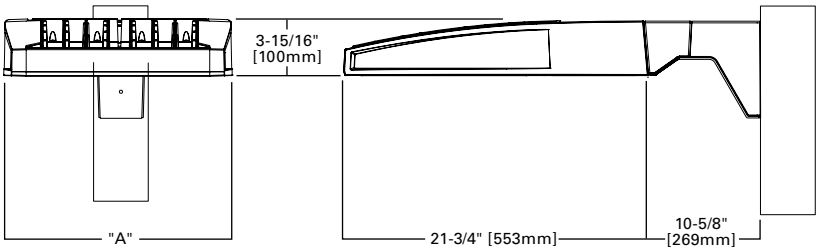
QM and QMEA Pole Mount



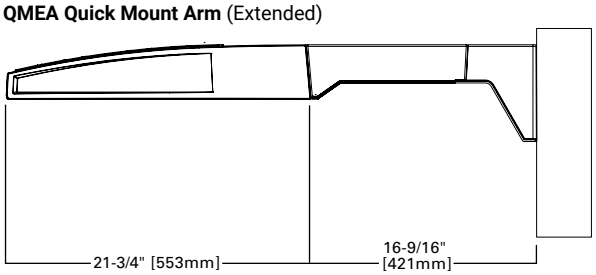
QML Pole Mount



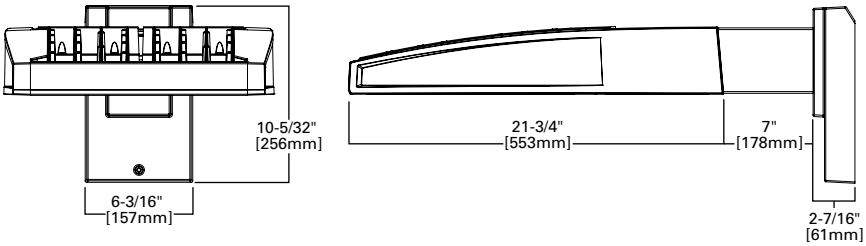
QM Quick Mount Arm (Standard)



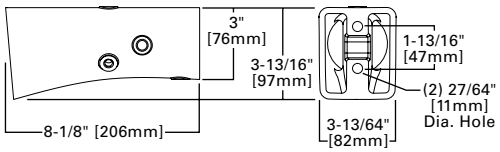
QMEA Quick Mount Arm (Extended)



Standard Wall Mount

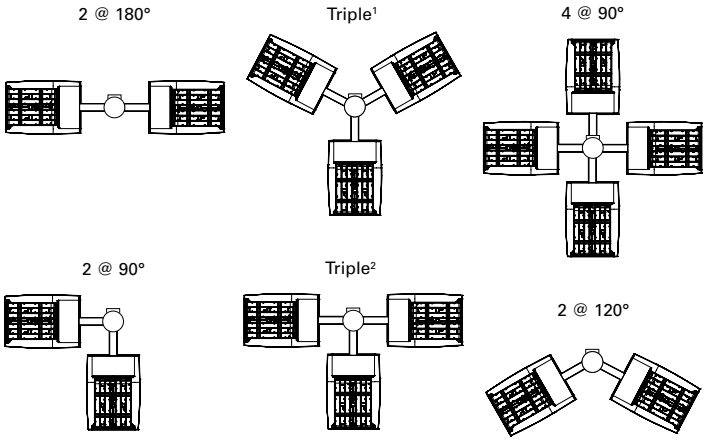


Mast Arm Mount



Arm Mounting Requirements

Number of Light Squares	Standard Arm @ 90° Apart	Standard Arm @ 120° Apart	Quick Mount Arm @ 90° Apart	Quick Mount Arm @ 120° Apart
1	Standard	Standard	QM Extended	Quick Mount
2	Standard	Standard	QM Extended	Quick Mount
3	Standard	Standard	QM Extended	Quick Mount
4	Standard	Standard	QM Extended	Quick Mount
5	Extended	Standard	QM Extended	Quick Mount
6	Extended	Standard	QM Extended	Quick Mount
7	Extended	Extended	--	Quick Mount
8	Extended	Extended	--	Quick Mount
9	Extended	Extended	--	--
10	Extended	Extended	--	--



NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. **2** Round poles are 3 @ 90°. **3** Shown with 4 square configurations.

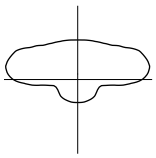
Fixture Weights and EPAs

Number of Light Squares	Weight with Standard and Extended Arm (lbs.)	EPA with Standard and Extended Arm (Sq. Ft.)	Weight with QM Arm (lbs.)	EPA with QM Arm (Sq. Ft.)	Weight with QML (lbs.)	EPA with QML (Sq. Ft.)	Weight with QMEA (lbs.)	EPA with QMEA (Sq. Ft.)
1-4	33	0.96	35	1.11	--	--	38	1.11
5-6	44	1.00	46	1.11	--	--	49	1.11
7-8	54	1.07	56	1.11	58	1.11	--	--
9-10	63	1.12	--	--	67	1.11	--	--

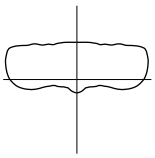
Optical Distributions

Asymmetric Area Distributions

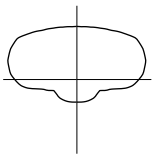
T2 (Type II)



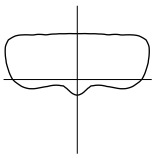
SL2 (Type II with Spill Control)



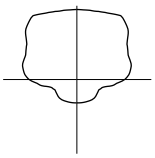
T3 (Type III)



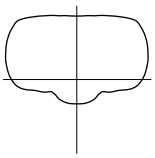
SL3 (Type III with Spill Control)



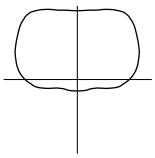
T4FT (Type IV Forward Throw)



T4W (Type IV Wide)

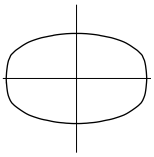


SL4 (Type IV with Spill Control)

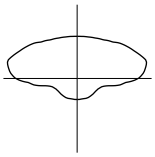


Asymmetric Roadway Distributions

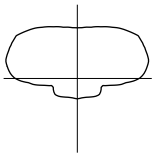
RW (Rectangular Wide Type I)



T2R (Type II Roadway)

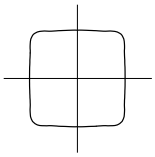


T3R (Type III Roadway)

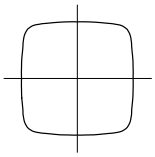


Symmetric Distributions

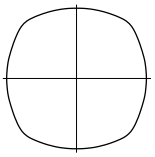
5NQ (Type V Square Narrow)



5MQ (Type V Square Medium)

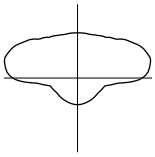


5WQ (Type V Square Wide)

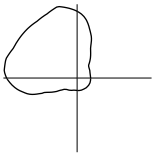


Specialized Distributions

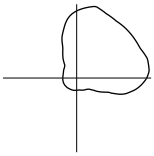
AFL (Automotive Frontline)



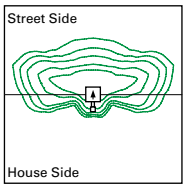
SLL (90° Spill Light Eliminator Left)



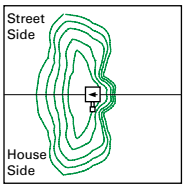
SLR (90° Spill Light Eliminator Right)



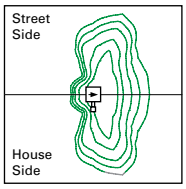
Rotated Optics



Standard



Optics Rotated Left @ 90° [L90]



Optics Rotated Right @ 90° [R90]

Product Specifications

Construction

- Extruded aluminum driver enclosure
- Heavy-wall, die-cast aluminum end caps
- Die-cast aluminum heat sinks
- Patent pending interlocking housing and heat sink

Optics

- Patented, high-efficiency injection-molded AccuLED Optics technology
- 16 optical distributions
- 3 shielding options including HSS, GRS and PFS
- IDA Certified (3000K CCT and warmer only)

Electrical

- LED drivers are mounted to removable tray assembly for ease of maintenance
- Standard with 0-10V dimming
- Standard with Cooper Lighting Solutions proprietary circuit module designed to withstand 10kV of transient line surge
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration.

Mounting

- Standard extruded arm includes internal bolt guides and round pole adapter
- Extended arms (EA and QMEA) may be required in 90° or 120° pole mount configurations, see arm mounting requirements table
- Mast arm (MA) factory installed
- Wall mount (WM) option available
- Quick mount arm (QM and QMEA) includes pole adapter and factory installed fixture mount for fast installation to square or round poles

Finish

- Super housing durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Heat sink is powder coated black
- RAL and custom color matches available
- Coastal Construction (CC) option available

Warranty

- Five year warranty

Energy and Performance Data

Lumen Maintenance (TM-21)

Drive Current	Ambient Temperature	25,000 hours*	50,000 hours*	60,000 hours*	100,000 hours**	Theoretical L70 hours**
Up to 1A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.7%	98.3%	98.1%	97.4%	> 1.9M
	50°C	98.2%	97.2%	96.8%	95.2%	> 851,000
1.2A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.5%	97.9%	97.7%	96.7%	> 1.3M

* Supported by IES TM-21 standards
** Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, explaining proper use of IES TM-21 and LM-80.

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

View GLEON IES files

Nominal Power Lumens (1.2A)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		67	129	191	258	320	382	448	511	575	640
Input Current @ 120V (A)		0.58	1.16	1.78	2.31	2.94	3.56	4.09	4.71	5.34	5.87
Input Current @ 208V (A)		0.33	0.63	0.93	1.27	1.57	1.87	2.22	2.52	2.8	3.14
Input Current @ 240V (A)		0.29	0.55	0.80	1.10	1.35	1.61	1.93	2.18	2.41	2.71
Input Current @ 277V (A)		0.25	0.48	0.70	0.96	1.18	1.39	1.69	1.90	2.09	2.36
Input Current @ 347V (A)		0.20	0.39	0.57	0.78	0.96	1.15	1.36	1.54	1.72	1.92
Input Current @ 480V (A)		0.15	0.30	0.43	0.60	0.73	0.85	1.03	1.16	1.28	1.45
Optics											
T2	4000K Lumens	7,972	15,580	23,245	30,714	38,056	45,541	53,857	61,024	68,072	75,366
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	121	122	119	119	119	120	119	118	118
T2R	4000K Lumens	8,462	16,539	24,680	32,609	40,401	48,348	57,176	64,783	72,266	80,010
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	129	126	126	127	128	127	126	125
T3	4000K Lumens	8,125	15,879	23,693	31,307	38,787	46,417	54,893	62,197	69,381	76,818
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	123	124	121	121	122	123	122	121	120
T3R	4000K Lumens	8,306	16,232	24,220	32,001	39,651	47,447	56,114	63,580	70,924	78,523
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	126	127	124	124	124	125	124	123	123
T4FT	4000K Lumens	8,173	15,970	23,831	31,488	39,014	46,686	55,212	62,558	69,783	77,261
	BUG Rating	B1-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	122	124	125	122	122	122	123	122	121	121
T4W	4000K Lumens	8,067	15,764	23,522	31,080	38,510	46,082	54,499	61,751	68,881	76,263
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	120	122	123	120	120	121	122	121	120	119
SL2	4000K Lumens	7,958	15,552	23,206	30,662	37,989	45,462	53,763	60,920	67,952	75,235
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	121	121	119	119	119	120	119	118	118
SL3	4000K Lumens	8,124	15,877	23,690	31,302	38,784	46,410	54,885	62,189	69,372	76,805
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	123	124	121	121	121	123	122	121	120
SL4	4000K Lumens	7,719	15,085	22,510	29,741	36,850	44,097	52,148	59,089	65,913	72,977
	BUG Rating	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	115	117	118	115	115	115	116	116	115	114
5NQ	4000K Lumens	8,380	16,375	24,436	32,287	40,003	47,870	56,610	64,144	71,552	79,221
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	125	127	128	125	125	125	126	126	124	124
5MQ	4000K Lumens	8,534	16,676	24,885	32,881	40,739	48,752	57,653	65,326	72,868	80,679
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	127	129	130	127	127	128	129	128	127	126
5WQ	4000K Lumens	8,556	16,723	24,951	32,968	40,847	48,881	57,808	65,499	73,063	80,894
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	128	130	131	128	128	128	129	128	127	126
SLL/ SLR	4000K Lumens	7,140	13,951	20,817	27,506	34,081	40,783	48,231	54,649	60,959	67,492
	BUG Rating	B1-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	107	108	109	107	107	107	108	107	106	105
RW	4000K Lumens	8,304	16,228	24,215	31,994	39,641	47,437	56,100	63,566	70,907	78,504
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	124	126	127	124	124	124	125	124	123	123
AFL	4000K Lumens	8,335	16,287	24,302	32,110	39,784	47,610	56,303	63,796	71,163	78,790
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G5
	Lumens per Watt	124	126	127	124	124	125	126	125	124	123

*** Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.**

Nominal Power Lumens (1A)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		59	113	166	225	279	333	391	445	501	558
Input Current @ 120V (A)		0.51	1.02	1.53	2.03	2.55	3.06	3.56	4.08	4.60	5.07
Input Current @ 208V (A)		0.29	0.56	0.82	1.11	1.37	1.64	1.93	2.19	2.46	2.75
Input Current @ 240V (A)		0.26	0.48	0.71	0.96	1.19	0.41	1.67	1.89	2.12	2.39
Input Current @ 277V (A)		0.23	0.42	0.61	0.83	1.03	1.23	1.45	1.65	1.84	2.09
Input Current @ 347V (A)		0.17	0.32	0.50	0.64	0.82	1.00	1.14	1.32	1.50	1.68
Input Current @ 480V (A)		0.14	0.24	0.37	0.48	0.61	0.75	0.91	0.99	1.12	1.28
Optics											
T2	4000K Lumens	7,267	14,201	21,190	28,000	34,692	41,515	49,096	55,627	62,053	68,703
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	126	128	124	124	125	126	125	124	123
T2R	4000K Lumens	7,715	15,077	22,497	29,725	36,829	44,073	52,122	59,056	65,876	72,937
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	133	136	132	132	132	133	133	131	131
T3	4000K Lumens	7,408	14,475	21,598	28,539	35,358	42,313	50,039	56,698	63,246	70,024
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	130	127	127	127	128	127	126	125
T3R	4000K Lumens	7,571	14,798	22,078	29,172	36,145	43,253	51,153	57,959	64,653	71,581
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	128	131	133	130	130	130	131	130	129	128
T4FT	4000K Lumens	7,451	14,559	21,725	28,703	35,564	42,558	50,330	57,027	63,613	70,430
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	129	131	128	127	128	129	128	127	126
T4W	4000K Lumens	7,354	14,371	21,442	28,333	35,105	42,007	49,681	56,291	62,792	69,521
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	127	129	126	126	126	127	126	125	125
SL2	4000K Lumens	7,254	14,178	21,155	27,951	34,631	41,443	49,011	55,533	61,944	68,584
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	125	127	124	124	124	125	125	124	123
SL3	4000K Lumens	7,406	14,474	21,596	28,534	35,355	42,307	50,033	56,690	63,237	70,014
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	128	130	127	127	127	128	127	126	125
SL4	4000K Lumens	7,037	13,751	20,519	27,112	33,592	40,198	47,538	53,864	60,087	66,524
	BUG Rating	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	119	122	124	120	120	121	122	121	120	119
5NQ	4000K Lumens	7,640	14,928	22,275	29,431	36,465	43,637	51,606	58,472	65,226	72,218
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	129	132	134	131	131	131	132	131	130	129
5MQ	4000K Lumens	7,779	15,203	22,684	29,973	37,137	44,441	52,555	59,549	66,427	73,545
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	132	135	137	133	133	133	134	134	133	132
5WQ	4000K Lumens	7,800	15,243	22,744	30,052	37,236	44,560	52,697	59,708	66,603	73,742
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	132	135	137	134	133	134	135	134	133	132
SLL/ SLR	4000K Lumens	6,510	12,719	18,977	25,075	31,067	37,176	43,967	49,817	55,569	61,525
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	110	113	114	111	111	112	112	112	111	110
RW	4000K Lumens	7,570	14,793	22,073	29,165	36,137	43,243	51,140	57,945	64,637	71,564
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	128	131	133	130	130	130	131	130	129	128
AFL	4000K Lumens	7,598	14,847	22,154	29,272	36,267	43,400	51,326	58,156	64,872	71,824
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	129	131	133	130	130	130	131	131	129	129

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Nominal Power Lumens (800mA)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		44	85	124	171	210	249	295	334	374	419
Input Current @ 120V (A)		0.39	0.77	1.13	1.54	1.90	2.26	2.67	3.03	3.39	3.80
Input Current @ 208V (A)		0.22	0.44	0.62	0.88	1.06	1.24	1.50	1.68	1.87	2.12
Input Current @ 240V (A)		0.19	0.38	0.54	0.76	0.92	1.08	1.30	1.46	1.62	1.84
Input Current @ 277V (A)		0.17	0.36	0.47	0.72	0.83	0.95	1.19	1.31	1.42	1.67
Input Current @ 347V (A)		0.15	0.24	0.38	0.49	0.63	0.77	0.87	1.01	1.15	1.52
Input Current @ 480V (A)		0.11	0.18	0.29	0.37	0.48	0.59	0.66	0.77	0.88	0.96
Optics											
T2	4000K Lumens	5,871	11,474	17,121	22,622	28,029	33,542	39,667	44,944	50,134	55,508
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	133	135	138	132	133	135	134	135	134	132
T2R	4000K Lumens	6,233	12,181	18,176	24,016	29,756	35,608	42,111	47,714	53,224	58,929
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	142	143	147	140	142	143	143	143	142	141
T3	4000K Lumens	5,986	11,695	17,450	23,057	28,568	34,186	40,430	45,809	51,099	56,576
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	136	138	141	135	136	137	137	137	137	135
T3R	4000K Lumens	6,117	11,955	17,838	23,569	29,203	34,946	41,328	46,827	52,235	57,832
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	139	141	144	138	139	140	140	140	140	138
T4FT	4000K Lumens	6,019	11,763	17,551	23,190	28,734	34,384	40,663	46,074	51,396	56,904
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	137	138	142	136	137	138	138	138	137	136
T4W	4000K Lumens	5,942	11,610	17,324	22,891	28,363	33,940	40,138	45,480	50,732	56,169
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	135	137	140	134	135	136	136	136	136	134
SL2	4000K Lumens	5,862	11,454	17,091	22,583	27,980	33,484	39,598	44,867	50,048	55,411
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	133	135	138	132	133	134	134	134	134	132
SL3	4000K Lumens	5,985	11,694	17,447	23,053	28,565	34,182	40,424	45,804	51,092	56,568
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	136	138	141	135	136	137	137	137	137	135
SL4	4000K Lumens	5,685	11,111	16,577	21,905	27,140	32,478	38,409	43,520	48,546	53,748
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	129	131	134	128	129	130	130	130	130	128
5NQ	4000K Lumens	6,172	12,061	17,997	23,778	29,462	35,256	41,694	47,242	52,699	58,347
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	140	142	145	139	140	142	141	141	141	139
5MQ	4000K Lumens	6,285	12,283	18,328	24,217	30,004	35,907	42,462	48,112	53,669	59,421
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	143	145	148	142	143	144	144	144	144	142
5WQ	4000K Lumens	6,303	12,317	18,377	24,281	30,085	36,001	42,575	48,241	53,812	59,579
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	143	145	148	142	143	145	144	144	144	142
SLL/ SLR	4000K Lumens	5,260	10,276	15,332	20,259	25,101	30,037	35,522	40,249	44,898	49,708
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	120	121	124	118	120	121	120	121	120	119
RW	4000K Lumens	6,116	11,952	17,834	23,563	29,196	34,938	41,317	46,817	52,224	57,819
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	139	141	144	138	139	140	140	140	140	138
AFL	4000K Lumens	6,139	11,996	17,899	23,650	29,302	35,064	41,468	46,987	52,412	58,030
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
	Lumens per Watt	140	141	144	138	140	141	141	141	140	138

*** Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.**

Nominal Power Lumens (600mA)

Supplemental Performance Guide**

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		34	66	96	129	162	193	226	257	290	323
Input Current @ 120V (A)		0.30	0.58	0.86	1.16	1.44	1.73	2.03	2.33	2.59	2.89
Input Current @ 208V (A)		0.17	0.34	0.49	0.65	0.84	0.99	1.14	1.30	1.48	1.63
Input Current @ 240V (A)		0.15	0.30	0.43	0.56	0.74	0.87	1.00	1.13	1.30	1.43
Input Current @ 277V (A)		0.14	0.28	0.41	0.52	0.69	0.81	0.93	1.04	1.22	1.33
Input Current @ 347V (A)		0.11	0.19	0.30	0.39	0.49	0.60	0.69	0.77	0.90	0.99
Input Current @ 480V (A)		0.08	0.15	0.24	0.30	0.38	0.48	0.53	0.59	0.71	0.77
Optics											
T2	4000K Lumens	4,787	9,357	13,961	18,448	22,856	27,353	32,347	36,651	40,884	45,265
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	141	142	145	143	141	142	143	143	141	140
T2R	4000K Lumens	5,083	9,934	14,822	19,585	24,266	29,038	34,341	38,911	43,404	48,055
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	150	151	154	152	150	150	152	151	150	149
T3	4000K Lumens	4,880	9,537	14,231	18,803	23,296	27,878	32,970	37,358	41,671	46,137
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	144	145	148	146	144	144	146	145	144	143
T3R	4000K Lumens	4,988	9,749	14,547	19,220	23,814	28,497	33,703	38,188	42,598	47,162
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	147	148	152	149	147	148	149	149	147	146
T4FT	4000K Lumens	4,909	9,591	14,312	18,911	23,432	28,040	33,161	37,574	41,913	46,404
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	144	145	149	147	145	145	147	146	145	144
T4W	4000K Lumens	4,845	9,468	14,128	18,668	23,130	27,678	32,732	37,088	41,371	45,805
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	143	143	147	145	143	143	145	144	143	142
SL2	4000K Lumens	4,779	9,341	13,937	18,416	22,818	27,305	32,292	36,589	40,813	45,188
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	141	142	145	143	141	141	143	142	141	140
SL3	4000K Lumens	4,879	9,536	14,229	18,800	23,294	27,874	32,965	37,351	41,666	46,130
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	144	144	148	146	144	144	146	145	144	143
SL4	4000K Lumens	4,637	9,059	13,519	17,863	22,132	26,486	31,322	35,490	39,589	43,831
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	136	137	141	138	137	137	139	138	137	136
5NQ	4000K Lumens	5,033	9,835	14,676	19,392	24,026	28,751	34,002	38,526	42,975	47,581
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	148	149	153	150	148	149	150	150	148	147
5MQ	4000K Lumens	5,126	10,015	14,946	19,747	24,468	29,281	34,628	39,236	43,766	48,457
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	151	152	156	153	151	152	153	153	151	150
5WQ	4000K Lumens	5,139	10,043	14,985	19,801	24,533	29,359	34,721	39,339	43,883	48,586
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	151	152	156	153	151	152	154	153	151	150
SLL/ SLR	4000K Lumens	4,289	8,380	12,502	16,520	20,469	24,494	28,967	32,823	36,613	40,537
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	126	127	130	128	126	127	128	128	126	126
RW	4000K Lumens	4,987	9,746	14,543	19,215	23,808	28,491	33,695	38,178	42,587	47,151
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	147	148	151	149	147	148	149	149	147	146
AFL	4000K Lumens	5,007	9,782	14,597	19,285	23,896	28,594	33,817	38,317	42,742	47,322
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	147	148	152	149	148	148	150	149	147	147

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

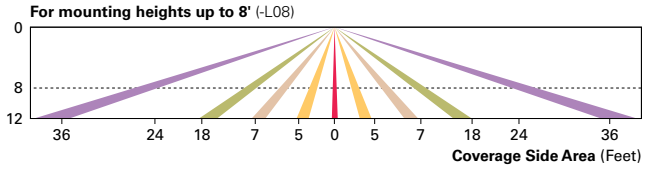
Control Options

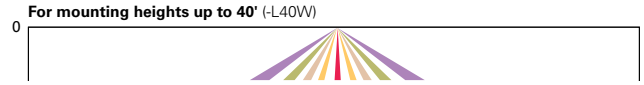
0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

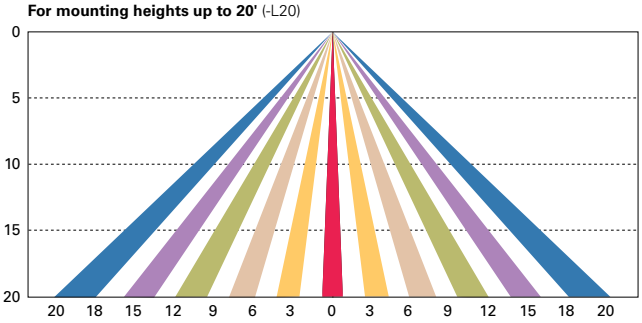
Photocontrol (BPC, PR and PR7)
Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

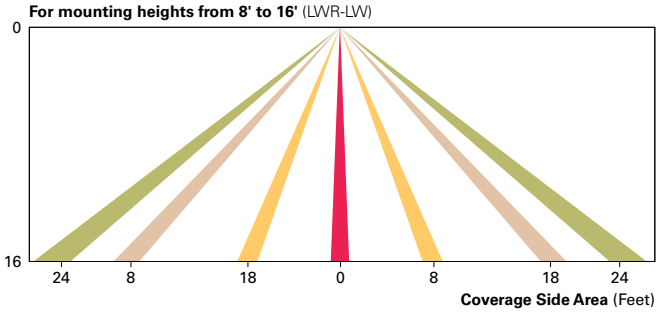
Dimming Occupancy Sensor (SPB, MS/DIM-LXX, MS/X-LXX and MS-LXX)
These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM occupancy sensors require the FSIR-100 programming tool to adjust factory defaults.

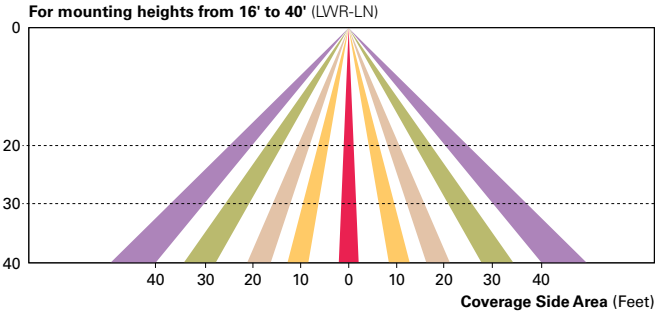






Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN)
Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting.





WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A)
The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

LumenSafe Integrated Network Security Camera (LD)
Cooper Lighting Solutions brings ease of camera deployment to a whole new level. No additional wiring is needed beyond providing line power to the luminaire. A variety of networking options allows security integrators to design the optimal solution for active surveillance. As the ideal solution to meet the needs for active surveillance, the LumenSafe integrated network camera is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. This IP camera is optimally designed for deployment in the video management system or security software platform of choice.

Synapse (DIM10)
SimplySNAP integrated wireless controls system by Synapse. Includes factory installed DIM10 Synapse control module and MS/DC motion sensor; requires additional Synapse system components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

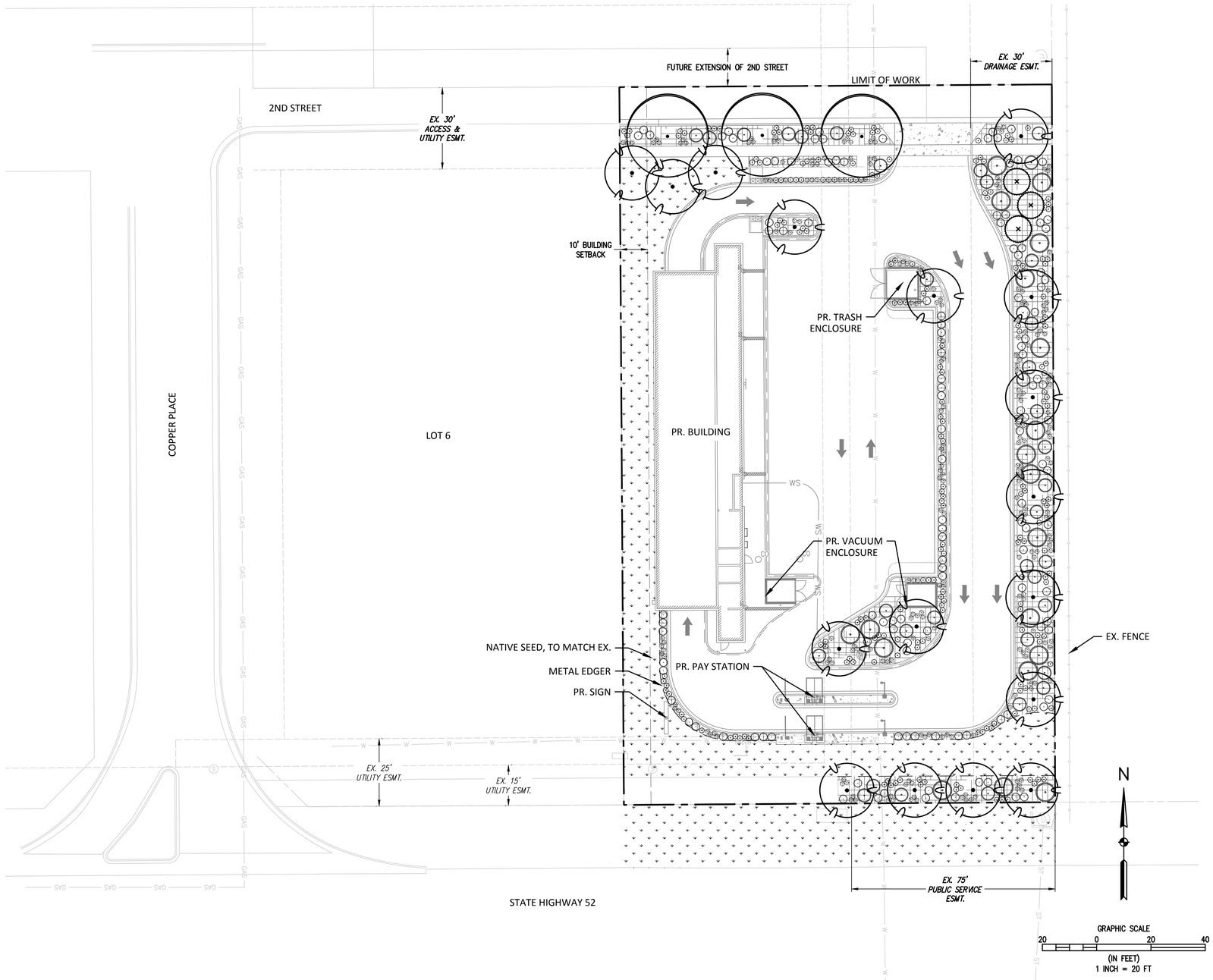
Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

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Specifications and dimensions
subject to change without notice.

SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



LEGEND

- LIMIT OF WORK / PROPERTY LINE
- METAL EDGER
- DECIDUOUS CANOPY TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- SHRUBS
- ORNAMENTAL GRASS
- PERENNIALS
- NATIVE SEED
- 3/4" ROCK MULCH

LANDSCAPE COMPLIANCE

NORTH BOUNDARY

FRONTAGE (LF)	125	PER 40 LF
STREET TREES	**REQUIRED**	**PROVIDED**
LARGE TREES	3	3
SMALL TREES	-	1
INTERNAL	**REQUIRED**	**PROVIDED**
LARGE TREES	4	0
SMALL TREES	-	3
EVERGREEN TREES	-	-
SHRUBS	32	32
ADDITIONAL PLANTINGS	-	86

NOTE: REQUIRED TREES COULD NOT BE PROVIDED DUE TO EXISTING UTILITY AND EASEMENTS. ADDITIONAL SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES PROVIDED.

SOUTH BOUNDARY

FRONTAGE (LF)	159	PER 40 LF
STREET TREES	**REQUIRED**	**PROVIDED**
LARGE TREES	4	0
SMALL TREES	-	4
INTERNAL	**REQUIRED**	**PROVIDED**
LARGE TREES	4	0
SMALL TREES	-	4
EVERGREEN TREES	-	-
SHRUBS	32	18
ADDITIONAL PLANTINGS	-	43

NOTE: REQUIRED TREES COULD NOT BE PROVIDED DUE TO EXISTING UTILITY AND EASEMENTS. ADDITIONAL SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES PROVIDED.

EAST SCREENING

PROPERTY LINE (LF)	265 LF	PER 20 LF
SCREENING	**REQUIRED**	**PROVIDED**
50% OF PERIMETER	133 LF	265 LF
INTERNAL	**REQUIRED**	**PROVIDED**
LARGE TREES	13	0
SMALL TREES	-	5
EVERGREEN TREES	-	3
SHRUBS (SCREENING)	-	74

NOTE: REQUIRED TREES COULD NOT BE PROVIDED DUE TO EXISTING UTILITY AND EASEMENTS.

PARKING LOT

PARKING LOT ISLANDS		3
PARKING SPACES		18
SPECIFICATION	**REQUIRED**	**PROVIDED**
LARGE TREES	8	0
SMALL TREES	-	4
SHRUBS	32	32
SHRUBS (SCREENING)	-	176

NOTE: REQUIRED TREES COULD NOT BE PROVIDED DUE TO EXISTING UTILITY AND EASEMENTS.

BASELINE
Engineering · Planning · Surveying
102 N. RUBEY DRIVE, SUITE 210 · GOLDEN, COLORADO 80403
P. 3039403868 · F. 3039403869 · www.baselinecorp.com

DESIGNED BY	DRAWN BY	CHECKED BY
KLH	KLH	SRA

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
WELD COUNTY
LOT 7
LANDSCAPE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Landscape Plan.dwg
SHEET 8 OF 10	

L1.0

N:\PLANNING LLC\493 7B Development- Fort Lupton Site\Drawings\Planning Documents\SDP\493_SDP Landscape Plan.dwg, 4/22/2022 11:06:49 AM, Lon Von

SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO

LANDSCAPE NOTES

GENERAL
1. ALL LANDSCAPING SHALL BE INSTALLED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY, UNLESS EXCEPTION HAS BEEN GRANTED BY THE MUNICIPALITY OR COUNTY OFFICIALS.
2. THE LANDSCAPE PLANS AND SPECIFICATIONS SHOULD BE FOLLOWED AS CLOSELY AS POSSIBLE. THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT SHOULD BE NOTIFIED IF ANY SUBSTITUTIONS OR ALTERATIONS ARE NEEDED.
3. THE CONTRACTOR SHALL COORDINATE INSPECTION AND APPROVAL OF ALL MATERIALS AND PRODUCTS PRIOR TO INSTALLATION.
4. THE CONTRACTOR IS EXPECTED TO KNOW AND UNDERSTAND ANY LOCAL MUNICIPAL AND COUNTY CODES AND SPECIFICATIONS FOR LANDSCAPE AND IRRIGATION. IN CASES OF DISCREPANCIES THE HIGHER OF THE TWO STANDARDS SHALL HAVE PRECEDENCE.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN). THE CONTRACTOR SHALL MARK ALL UTILITIES BEFORE BEGINNING PLANTING AND IRRIGATION OPERATIONS. SHOULD ACTUAL UTILITY LOCATION BE SUBSTANTIALLY DIFFERENT THAN THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND OWNER FOR DIRECTION BEFORE PROCEEDING FURTHER.
6. THE LANDSCAPE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE EXISTS IN ALL LANDSCAPE AREAS. ALL LANDSCAPE AREAS SHALL MAINTAIN SLOPE AWAY FROM FOUNDATIONS PER GEOTECHNICAL REPORT RECOMMENDATIONS. SURFACE DRAINAGE SHALL NOT FLOW TOWARD STRUCTURES AND FOUNDATIONS. NO DAMMING OF WATER SHOULD OCCUR AGAINST SIDEWALKS, CURBS, TURF THATCH, OR OTHER LANDSCAPE MATERIALS. MINIMUM SLOPES ON LANDSCAPE AREAS SHALL BE 2%; MAXIMUM SLOPE SHALL BE 25% UNLESS SPECIFICALLY IDENTIFIED ON THE PLANS OR APPROVED BY THE OWNER'S REPRESENTATIVE.
7. INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ALL IMPROVEMENTS SHOWN ON THE APPROVED LANDSCAPE PLAN IN THE PLANNING DEPARTMENT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, HIS SUCCESSORS AND DELEGATES.
8. LANDSCAPING SHALL NOT INTERFERE WITH TRAFFIC VISIBILITY AND THE GENERAL FUNCTION AND SAFETY OF ANY GAS, ELECTRIC, WATER, SEWER, TELEPHONE, CABLE, OR OTHER UTILITY EASEMENT.

WARRANTY
1. UNLESS SPECIFIED IN THE CONTRACT DOCUMENTS OR SPECIFICATIONS, THE CONTRACTOR SHALL WARRANTY ALL CONTRACTED WORK AND MATERIALS FOR A PERIOD OF ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION HAS BEEN ISSUED FOR THE PROJECT BY THE OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL PROVIDE LANDSCAPE PROTECTION, MAINTENANCE, AND IRRIGATION INCLUDING SUPPLEMENTAL WATERING PER SPECIFICATIONS UNTIL SUBSTANTIAL COMPLETION HAS BEEN ISSUED UNLESS OTHERWISE INSTRUCTED PER OWNER'S REPRESENTATIVE.

PLANTS
1. THE PLANT SCHEDULE IS FOR CONTRACTOR'S CONVENIENCE ONLY. PLANT QUANTITIES SHOULD BE VERIFIED BY THE CONTRACTOR. GRAPHIC QUANTITIES TAKE PRECEDENCE OVER WRITTEN QUANTITIES. OVERALL PLANT QUANTITY AND QUALITY SHALL BE CONSISTENT WITH THE PLANS.
2. THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT RETAIN THE RIGHT TO INSPECT AND TAG ALL PLANT MATERIAL PRIOR TO SHIPPING TO THE SITE. THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT MAY REJECT PLANT MATERIAL IF IT IS DAMAGED, DISEASED, OR DECLINING IN HEALTH. PLANT MATERIAL SHALL BE HEALTHY, WELL-BRANCHED, AND WELL PROPORTIONED, FREE FROM DISEASE, INJURY, INSECTS, AND WEED ROOTS.
3. ALL PLANT MATERIAL SHALL MEET OR EXCEED CURRENT AMERICAN STANDARD FOR NURSERY STOCK ISSUED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. (ANSI Z60.1-1990) AND THE COLORADO NURSERY ACT AND ACCOMPANYING RULES AND REGULATIONS. PLANT MATERIAL GROWN IN USDA HARDINESS ZONES 1, 2, 3, 4, AND 5 IS PREFERRED.
4. THE CONTRACTOR SHALL VERIFY PLANT MATERIAL SIZES WITH OWNER'S REPRESENTATIVE PRIOR TO PURCHASING, SHIPPING OR STOCKING OF PLANT MATERIALS. PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES.
5. THE OWNER'S REPRESENTATIVE MAY OPT TO DOWN OR UPSIZE THE PLANT MATERIAL AT THEIR DISCRETION BASED ON SELECTION, AVAILABILITY, OR ENHANCEMENTS TO THE PROJECT. ALL CHANGES, INCLUDING RE-STOCKING CHARGES, SHALL BE APPROVED IN WRITING PRIOR TO INSTALLATION THROUGH A CHANGE ORDER REQUEST TO OWNER'S REPRESENTATIVE FOR APPROVAL.
6. ALL PLANT LOCATIONS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE VERIFIED WITH THE LANDSCAPE ARCHITECT OR DESIGNER PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL REQUIREMENTS OF THE PERMITTING AUTHORITY ARE MET (I.E., MINIMUM PLANT QUANTITIES, PLANTING METHODS, TREE PROTECTION METHODS, ETC.)
7. NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT. IF SOME OF THE PLANTS ARE NOT AVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING (VIA PROPER CHANNELS).

IRRIGATION
1. ALL PROPOSED LANDSCAPE AREAS SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. REFER TO IRRIGATION PLANS FOR TYPES AND LIMITS OF IRRIGATION. THE SYSTEM SHALL BE PROPERLY ZONED TO SEPARATE PLANT REQUIREMENTS, TURF ZONES, AND NATIVE SEED AREAS.
2. CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL GEOTECHNICAL REPORT STIPULATIONS KEEPING ALL IRRIGATION LINES, HEADS, AND EMITTERS OUTSIDE THE MINIMUM DISTANCES SPECIFIED. IN NO CASE SHALL IRRIGATION BE EMITTED WITHIN THE MINIMUM DISTANCES OF BUILDING OR WALL FOUNDATIONS.
3. CONTRACTOR SHALL COORDINATE ALL INSTALLATION OF IRRIGATION EQUIPMENT AND LINES SO THAT IT DOES NOT INTERFERE WITH PLANTING LOCATIONS. LANDSCAPE MATERIAL LOCATIONS SHALL HAVE PRECEDENCE OVER IRRIGATION LINES AND EQUIPMENT. IF INSTALLED IN LOCATIONS OBSTRUCTING THE INTENDED USE, THE IRRIGATION EQUIPMENT SHALL BE RELOCATED.
4. IRRIGATION ADJACENT TO EXISTING TREES AND LANDSCAPE TO REMAIN SHALL BE HAND DUG.
5. EVERGREEN TREES SHALL BE LOCATED A MINIMUM OF FIFTEEN FEET (15') AWAY FROM IRRIGATION ROTOR HEADS.

SOIL PREPARATION
1. BEFORE COMMENCING WORK, THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL SEWER, WATER, IRRIGATION, GAS, ELECTRIC, CABLE, PHONE AND OTHER PIPELINES OR CONDUITS AND EQUIPMENT ARE LOCATED ON SITE.
2. SURFACE GRADING TO INCLUDE REMOVAL OF EXISTING VEGETATION, WEEDS, DEBRIS, CLODS AND ROCKS LARGER THAN ½" FROM THE SITE. DISPOSE OF ACCUMULATED DEBRIS AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
3. THE CONTRACTOR SHALL TAKE MEASURES AND ASSUME MAINTENANCE AND MANAGEMENT OF EROSION CONTROL, SURFACE RUNOFF, AND SOIL EROSION AND SEDIMENT FROM THE SITE PER STORM WATER MANAGEMENT PLANS / PROGRAMS IN PLACE.
4. THE CONTRACTOR SHALL INSPECT ALL CONDITIONS FOR RETENTION OF WATER IN PLANTING AREAS TO MAKE SURE THERE IS ADEQUATE DRAINAGE IN ALL LANDSCAPE AREAS.
5. THE SITE SHOULD BE PROVIDED TO THE CONTRACTOR WITHIN +/- 0.1 FOOT OF FINISH GRADE. CONTRACTOR SHALL VERIFY THE ROUGH GRADING AND SITE CONDITIONS.
7. ALL GRADES SHALL BE WITHIN +/- 1/8" OF FINISHED GRADES AS SHOWN ON THE PLANS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING SUITABLE SOIL MEDIUM THAT ENSURES HEALTHY PLANT GROWTH. SOIL SAMPLES ARE RECOMMENDED FOR ANALYSIS OF ORGANIC MATTER RECOMMENDATIONS REQUIRED FOR THE SOIL FOR HEALTHY PLANT GROWTH.
9. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
10. BEFORE PLANTS ARE INSTALLED, ALL LANDSCAPE AREAS SHALL BE THOROUGHLY LOOSENED TO A DEPTH OF 8"-12" AND AMENDED PER SPECIFICATIONS AND MUNICIPAL REQUIREMENTS.
11. ALL LANDSCAPE AREAS SHALL RECEIVE ORGANIC SOIL PREPARATION AT 5 cu.yrds/1,000sf OR AS NOTED IN THE SOIL SAMPLE ANALYSIS.

TREES
1. TREES SHALL NOT BE LOCATED IN DRAINAGE SWALES, DRAINAGE AREAS, OR UTILITY EASEMENTS. CONTACT OWNER'S REPRESENTATIVE FOR RELOCATION OF PLANTS IN QUESTIONABLE AREAS PRIOR TO INSTALLATION.
2. TREE CENTERS SHALL NOT BE PLACED CLOSER THAN EIGHT FEET (8') FOR EVERGREEN TREES AND SIX FEET (6') FOR ORNAMENTAL TREES FROM A SIDEWALK, PARKING, STREET OR DRIVE LANE. NOTIFY OWNER'S REPRESENTATIVE IF TREE LOCATIONS CONFLICT WITH THESE STANDARDS.
3. EVERGREEN TREES SHALL NOT BE USED IN THE TREE LAWN OR WITHIN EIGHT FEET (8') OF A PUBLIC WALK.
4. ALL TREES ARE TO BE STAKED AND GUYED FOR A PERIOD OF ONE (1) YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING STAKES AT THE END OF ONE (1) YEAR FROM ACCEPTANCE OF LANDSCAPE INSTALLATION PER APPROVAL BY OWNER'S REPRESENTATIVE.
5. ALL TREES IN SEED OR TURF AREAS SHALL RECEIVE MULCH RINGS. ALL TREE RINGS AND PERENNIAL BEDS SHALL BE MULCHED WITH A 3" DEPTH OF GORILLA HAIR CEDAR MULCH.

MULCH & EDGING
1. PRIOR TO THE PLACEMENT OF MULCH AND WEED FABRIC, A GRANULAR, PRE-EMERGENT, WEED CONTROL AGENT SHALL BE ADDED TO ALL PLANTING BEDS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION, EXCEPT AROUND ORNAMENTAL GRASSES.
2. SHRUB, GROUNDCOVER AND PERENNIAL BEDS ARE TO BE CONTAINED BY 4" x 14 GAUGE GALVANIZED, GREEN, ROLL TOP, INTERLOCKING TYPE EDGER, SURE-LOC OR APPROVED EQUAL. EDGER IS NOT REQUIRED WHEN ADJACENT CURBS, WALLS, WALKS OR SOLID FENCES WITHIN 3" OF PRE-MULCHED FINAL GRADE. EDGER SHALL NOT BE REQUIRED TO SEPARATE MULCH TYPES UNLESS SPECIFIED ON THE PLANS. PERFORATED EDGER IS ONLY USED BETWEEN SOD/NATIVE GRASS AND MULCH AREAS WHERE PONDING OF WATER OCCURS. EDGER SHALL NOT RESTRICT THE FREE FLOW OF DRAINAGE OR DAM WATER IN ANY CASE.
3. ALL SHRUB BEDS ARE TO BE MULCHED WITH MIN. FOUR INCH (4") DEPTH OF 1"-2" ROUNDED RIVER ROCK MULCH OVER SPECIFIED GEOTEXTILE WEED CONTROL FABRIC (RE: PLANS). NO WEED CONTROL FABRIC IS REQUIRED IN GROUNDCOVER, ANNUAL OR PERENNIAL AREAS. CONTRACTOR TO SUBMIT SAMPLE OF ALL MULCHES TO LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
4. ALL 5' NON-IRRIGATED CLEAR BOUNDARY ZONES SHOULD BE MULCHED WITH A FOUR INCH (4") DEPTH OF ROUNDED RIVER ROCK MULCH OVER SPECIFIED GEOTEXTILE WEED CONTROL FABRIC.
5. NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED.
6. SHREDDED CEDAR WOOD MULCH SHALL BE INSTALLED AT THE BASE OF EACH PLANT AS FOLLOWS: TREES, 48" DIAMETER CIRCLE; SHRUBS, 18" DIAMETER CIRCLE AT A 3" DEPTH.

PLANT SCHEDULE

MATERIAL SCHEDULE

NATIVE SEED

	5,714 SF	NATIVE SEED MIX

ROCK MULCH

	7,317 SF	3/4" - 1-1/2" ROCK MULCH

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DESIGNED BY KLH | DRAWN BY KLH | CHECKED BY SRA

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON — WELD COUNTY
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
LANDSCAPE NOTES

PREPARED UNDER THE DIRECT SUPERVISION OF
PRELIMINARY NOT FOR CONSTRUCTION
FOR AND ON BEHALF OF BASELINE CORPORATION

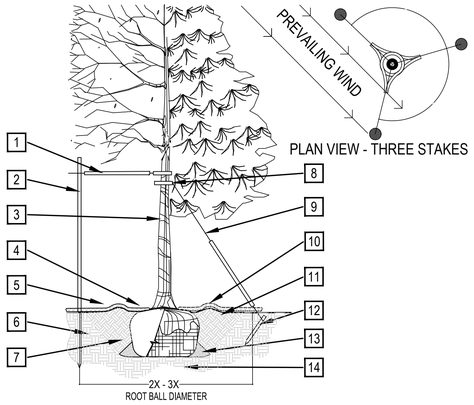
INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM / SURVEY DATE	BEC / 03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Landscape Plan.dwg
SHEET	9 OF 10

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SPECIAL USE PERMIT
CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



PLAN VIEW - THREE STAKES

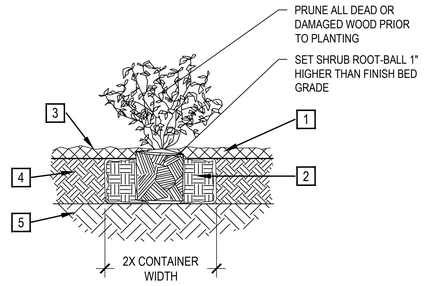
PRUNING NOTES:
1. ALL PRUNING SHALL COMPLY WITH ANSI A300 STANDARDS.
2. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKING NOTES:
1. STAKE TREES PER FOLLOWING SCHEDULE, THEN REMOVE AT END OF FIRST GROWING SEASON.
2. 1.1 1-$\frac{1}{2}$" CALIPER SIZE - MIN. 1 STAKE ON SIDE OF PREVAILING WIND (GENERALLY N.W. SIDE)
   1.2 1-$\frac{1}{2}$" - 3" CALIPER SIZE - MIN. 2 STAKES - ONE ON N.W. SIDE, ONE ON S.W. SIDE (OR PREVAILING WIND SIDE AND 180° FROM THAT SIDE)
   1.3 3" CALIPER SIZE AND LARGER - 3 STAKES PER DIAGRAM
3. WIRE OR CABLE SHALL BE MIN. 12 GAUGE, TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. NYLON STRAPS SHALL BE LONG ENOUGH TO ACCOMMODATE 1-$\frac{1}{2}$" OF GROWTH AND BUFFER ALL BRANCHES FROM WIRE.

1. PLACE MIN. $\frac{1}{2}$" PVC PIPE AROUND EACH WIRE. EXPOSED WIRE SHALL BE MAX. 2" EACH SIDE
2. 6 FT. UNTREATED WOOD POST (MIN. 1.5" DIAMETER). ALL SHALL BE DRIVEN OUTSIDE ROOTBALL AND IN UNDISTURBED SOIL.
3. TREE WRAP TO BE INSTALLED ONLY FROM OCTOBER 1 THROUGH APRIL 30. (DECIDUOUS ONLY)
4. PLANT TREE SO THAT FIRST ORDER MAJOR ROOT IS 1"-2" ABOVE FINAL GRADE.
5. 3" DEEP WOOD MULCH RING PLACED A MINIMUM OF 4 FT. IN DIAMETER. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK (FINISHED GRADE REFERENCES TOP OF MULCH).
6. 1:1 SLOPE ON SIDES OF PLANTING HOLE.
7. REMOVE ALL TWINE, ROPE, BURLAP AND WIRE FROM ENTIRE ROOT BALL AND TRUNK
8. GROMMETED NYLON STRAPS
9. GALVANIZED WIRE, MIN. 12 GAUGE CABLE - TWIST WIRE ONLY TO KEEP FROM SLIPPING.
10. 4-6" HIGH WATER SAUCER IN NON-TURF AREAS.
11. BACKFILL WITH BLEND OF EXISTING SOIL AND A MAXIMUM 20% (BY VOLUME) ORGANIC MATERIAL. WATER THOROUGHLY WHEN BACKFILLING
12. 2 FT. STEEL T-POST. ALL SHALL BE DRIVEN BELOW GRADE AND OUTSIDE ROOTBALL IN UNDISTURBED SOIL.
13. PLACE SOIL AROUND ROOT BALL FIRMLY, DO NOT COMPACT OR TAMP. SETTLE SOIL WITH WATER TO FILL ALL AIR POCKETS.
14. PLACE ROOT BALL ON UNDISTURBED SOIL TO PREVENT SETTLEMENT.

1 TREE PLANTING DETAIL

SCALE: 3/16" = 1'-0"

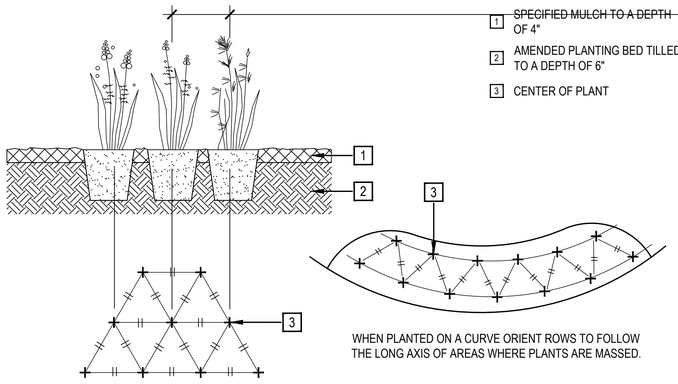


1. SPECIFIED MULCH
2. AMENDED SOIL IN PLANTING BED PER SPECIFICATIONS. TILL SOIL TO A DEPTH OF EIGHT INCHES.
3. FINISH GRADE (TOP OF MULCH)
4. AMENDED TOPSOIL
5. EXISTING SUBGRADE

NOTE:
1. BROKEN OR CRUMBLING ROOT-BALLS WILL BE REJECTED
2. CARE SHOULD BE TAKEN NOT TO DAMAGE THE SHRUB OR ROOT-BALL WHEN REMOVING IT FROM ITS CONTAINER
3. ALL JUNIPERS SHOULD BE PLANTED SO THE TOP OF THE ROOT-BALL OCCURS ABOVE THE FINISH GRADE OF THE MULCH LAYER
4. DIG PLANT PIT TWICE AS WIDE AND HIGH AS THE CONTAINER

2 SHRUB PLANTING

SCALE: 1-1/2" = 1'-0"

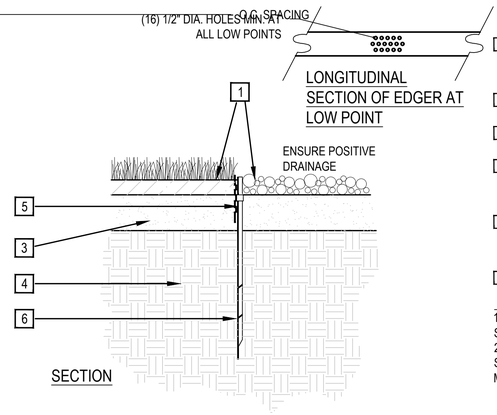


1. SPECIFIED MULCH TO A DEPTH OF 4"
2. AMENDED PLANTING BED TILLED TO A DEPTH OF 6"
3. CENTER OF PLANT

WHEN PLANTED ON A CURVE ORIENT ROWS TO FOLLOW THE LONG AXIS OF AREAS WHERE PLANTS ARE MASSED.

3 ORNAMENTAL GRASS LAYOUT

SCALE: 1" = 1'-0"



1. FINISHED GRADE - TOP OF SOD THATCH LAYER AND TOP OF MULCH OR CRUSHER FINES SHALL BE FLUSH WITH TOP OF EDGER
2. TURF THATCH
3. AMENDED SOIL PER SPECIFICATIONS
4. SUBGRADE
5. STEEL EDGER - DRILL (16) 1/2" DIA. HOLES 1" O.C. MIN. AT ALL LOW POINTS OR POORLY DRAINING AREAS IN ORDER TO ENSURE ADEQUATE DRAINAGE
6. EDGER STAKE

NOTES:
1. THERE SHALL BE NO EXPOSED SHARP / JAGGED EDGES.
2. CONTRACTOR SHALL INSTALL STAKES AS REQUIRED BY THE MANUFACTURER.

4 METAL EDGER

SCALE: 1" = 1'-0"

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REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

DESIGNED BY KLH | DRAWN BY KLH | CHECKED BY SRA

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
WELD COUNTY
LANDSCAPE DETAILS

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM / SURVEY DATE	BEC / 03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Landscape Plan.dwg
SHEET 10 OF 10	

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CL Helt Architect Inc.
WWW.CLHELT.COM

Entrance view Champion Xpress Carwash at CO-Fort Lupton(Copper place & 2nd street)

CHAMPION XPRESS



CL Helt Architect Inc.
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Exit view Champion Xpress Carwash at CO-Fort Lupton(Copper place & 2nd street)

CHAMPION XPRESS



CL Helt Architect Inc.
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Vacuum side view Champion Xpress Carwash at CO-Fort Lupton(Copper place & 2nd street)

CHAMPION XPRESS



CL Helt Architect Inc.
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Aerial view Champion Xpress Carwash at CO-Fort Lupton(Copper place & 2nd street)

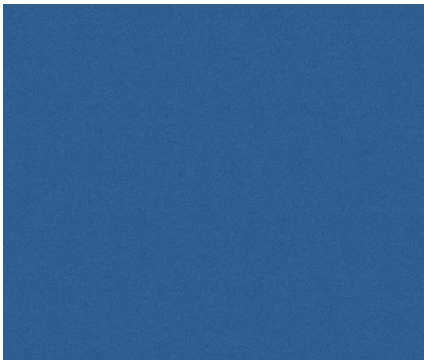
CHAMPION XPRESS



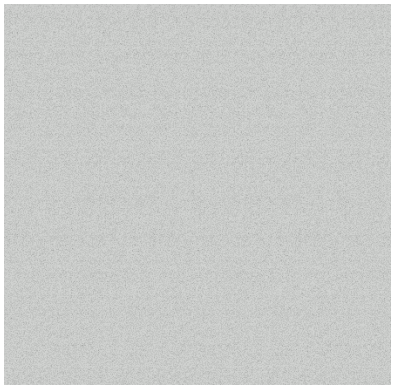
VACCUM BOOMS
MANUF: SONNY
COLOR: SILVER



EIFS WALL SYSTEM (CORNICE AT PARAPET)
MANUF: STO OR EQUAL
COLOR: STO 32243



EIFS WALL SYSTEM AT "X"
MANUF: STO OR EQUAL
COLOR: STO 35140
TEXTURE: 81130 STOLITE 1.0 DARK GLOSSY
PROVIDE 2 COATS 80648 STOCOLOR ACRYL



EIFS WALL SYSTEM
MANUF: STO CORP.
COLOR: STO 37110
TEXTURE: MEDIUM
MAIN FIELD COLOR



MAIN BUILDING ROOF PANEL
MANUF: WHIRLWINDSTEEL
COLOR: GALVALUME PLUS
STYLE: SUPER SPAN X



COPING CAP
MANUF: WHIRLWINDSTEEL
COLOR: BURNISHED SLATE



PAINT FINISH - DOORS
MANUF: SHERWIN WILLIAMS
COLOR: SW 6174 (1 PRIME + 2 COATS COLOR)
NAME: ANDIRON

PAINT FINISH (1 PRIME + 2 COATS COLOR)
MANUF: IFS COATING
COLOR: RAL 90333 CRYSTAL WHITE
PRODUCT#: PLSF 80037PAINT FINISH

LOUVERS
MANUF: SHERWIN WILLIAMS
COLOR: TO MATCH STO 37110



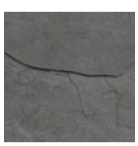
CANOPIES W/ FLAT SOFFIT
MANUF: MAPES ARCHITECTURAL
CANOPIES OR EQUAL
COLOR: MAPES BRONZE



NEWTECHWOOD ULTRASHIELD NATURALE
COMPOSITE CLADDING-SIDING SYSTEM
MANUF: NEWTECHWOOD
COLOR: US09/ US30/ US31



STACKED STONE
MANUF: SUNSET STONE
COLOR: PINOS CREEK



WAINSCOT CAP
MANUF: SUNSET STONE
COLOR: DEL NORTE

April 22, 2022

City of Fort Lupton Planning & Building Department
130 S. McKinley Avenue
Fort Lupton, CO 80921
March 31, 2022

RE: Drainage Letter – Champion Xpress Car Wash Special Use Permit
Lot 7, Vincent's East Addition 3rd Filing, 2nd Amendment
Cooper Place & 2nd Street, Fort Lupton, Colorado

To whom it may concern,

This drainage letter is for the proposed Champion Xpress Car Wash development on Lot 7 of the Vincent's East Addition Third Filing Subdivision, 2nd Amendment in Fort Lupton, Colorado. The site is legally described as being a parcel of land located in Section 5, Township 1 North, Range 66 West of the Sixth Principal Meridian in the City of Fort Lupton, Weld County, State of Colorado.

This letter is to confirm that the current proposed development on Lot 7 is in accordance with the "*Phase III Master Drainage Report for Vincent Village",* dated July 3, 2019. Per the master drainage report, the original development for Lot 7 is contained within Subbasin C, which has and assumed imperviousness of 80% (see attached). Subbasin C includes Lot 6 to the west of the project, which was assumed to have an imperviousness of 80% as well. Refer to the master drainage report map in the appendix for more information.

Per the historic drainage report the analysis of Basin C was based on an 80% impervious and 20% of pervious areas. Lot 7 is approximately 42,107 SF (0.97 acres) with a proposed added impervious area of 29,090 SF (0.67 acres) and 13,018 SF (0.30 acres) of pervious area. The proposed development will contain approximately 30.9 % pervious area and 69.1% of impervious areas. The proposed development impervious percentage is well below the impervious percentage used in the historic drainage analysis of the site; therefore, the development will be in accordance with the original drainage design of Vincent's East Addition 3rd Filing.

Historic drainage patterns for the site will be maintained by the proposed development which will convey stormwater from Lot 7 west within 2nd Street and ultimately to the detention pond, therefore the proposed Champion Xpress Car Wash development is in compliance with the *Phase III Master Drainage Report for Vincent Village*

Sincerely,

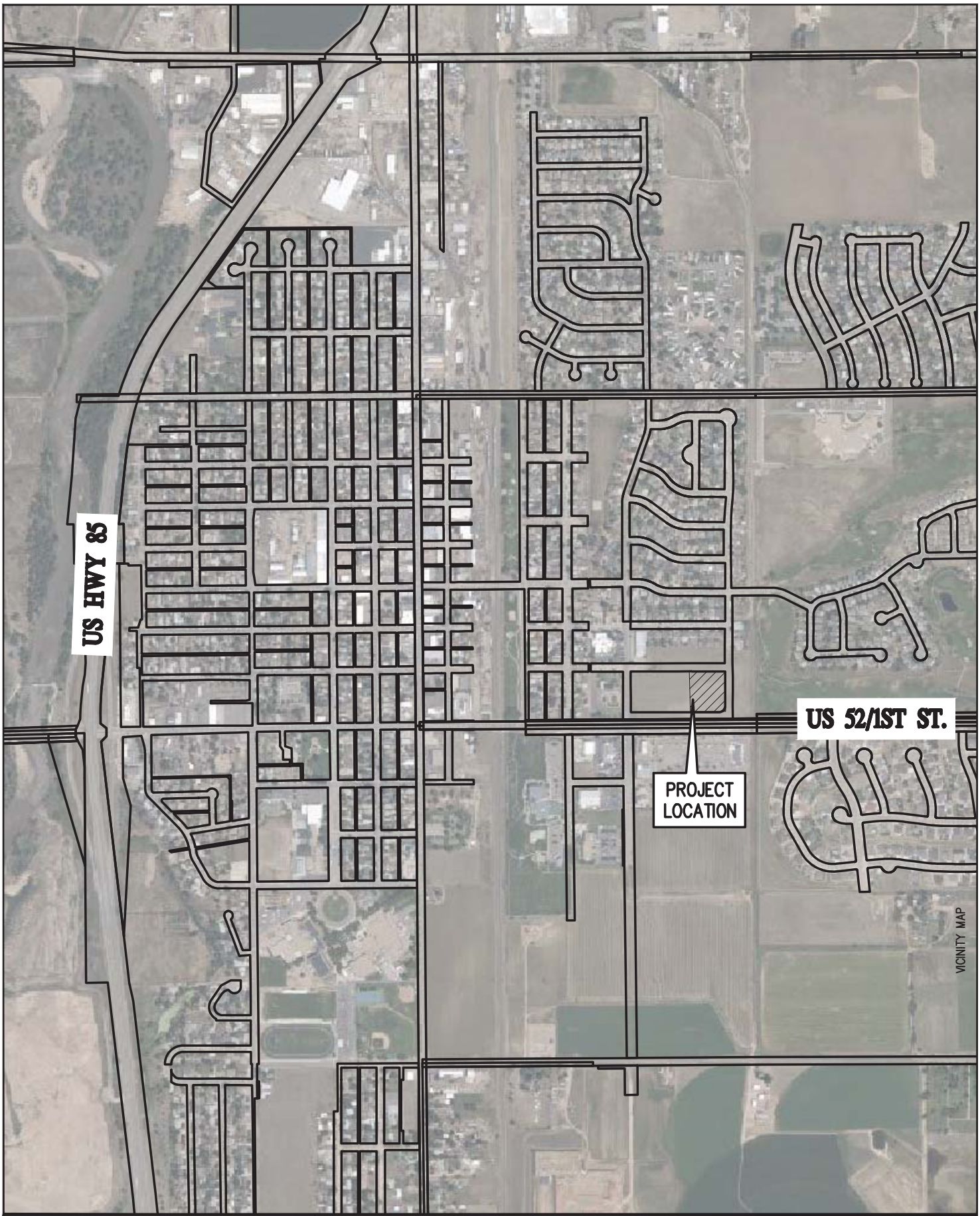
COLORADO LICENSED
LUKE R. MYERS
44363
4/22/2
PROFESSIONAL ENGINEER

Luke Myers, P.E.
Baseline Engineering
PE No. 44363

Corporate Headquarters
112 N Rubey Drive, Suite 210
Golden, Colorado 80403
Ph 303.940.9966
Fax 303.940.9959

Rocky Mountains
1169 Hilltop Pkwy, Suite 204, PO Box 770152
Steamboat Springs, Colorado 80477
Ph 970.879.1825
Fax 303.940.9959

Northern Colorado
4007 S Lincoln Avenue, Suite 405
Loveland, Colorado 80537
Ph 970.353.7600
Fax 866.679.4864



BASELINE
Engineering - Planning - Surveying

112 N RUBEY DRIVE, SUITE 210 - GOLDEN, COLORADO 80403
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CHAMPION XPRESS CAR WASH

CITY OF FORT LUPTON — WELD COUNTY

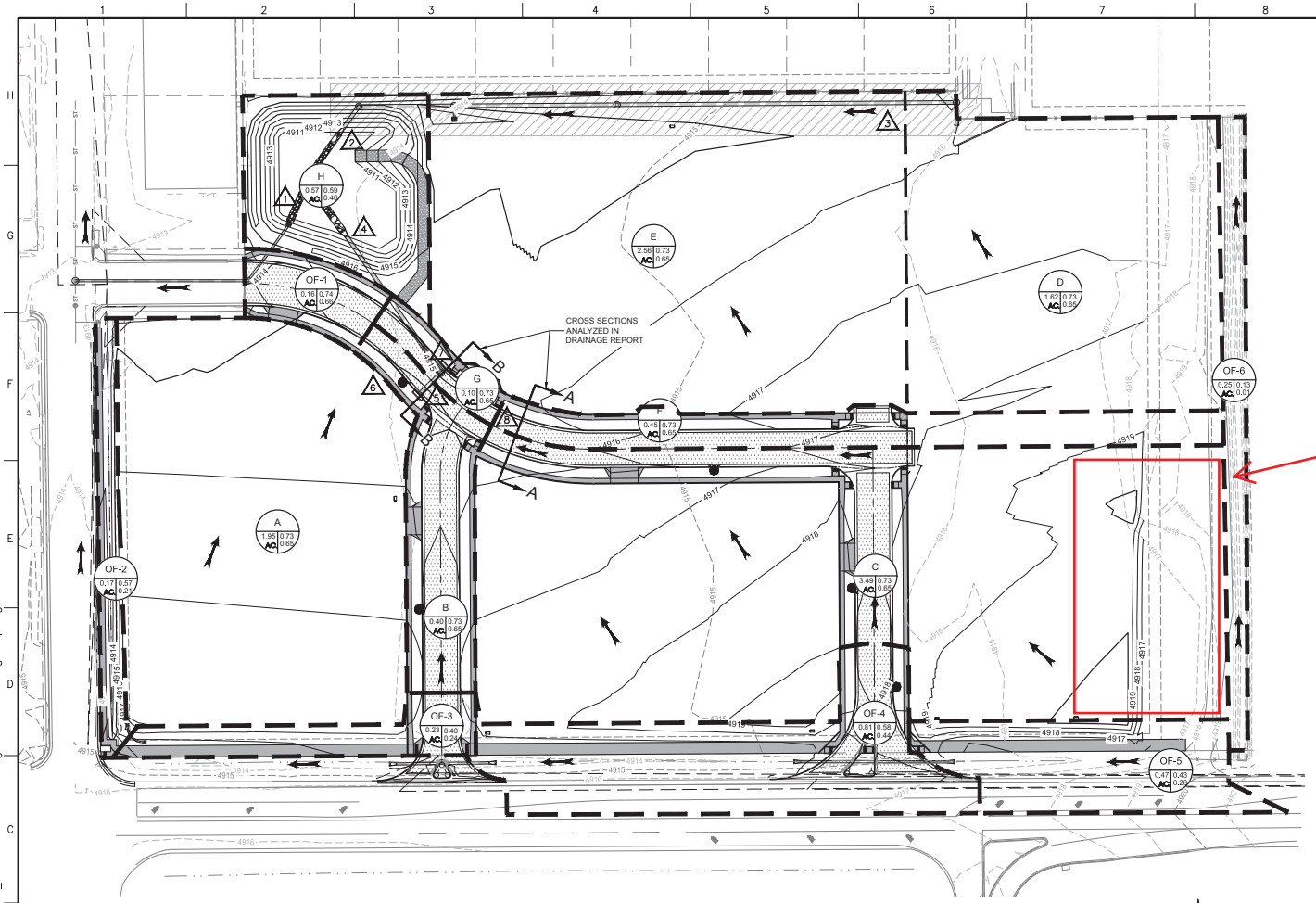
COOPER PLACE & 2ND STREET CAR WASH

LOT 7

DESIGNED BY	LTV
DRAWN BY	LTV
CHECKED BY	LTV

INITIAL SUBMITTAL	4/22/22
DRAWING SIZE	8.5" X 11"
SURVEY FIRM	BEC
SURVEY DATE	03/07/2022
JOB NO.	PL493
DRAWING NAME	493_Vicinity Map.dwg
SHEET	1 OF 1

1



LEGEND

- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- BASIN BOUNARY
- CURB AND GUTTER
- SPILL CURB
- PROPERTY BOUNDARY
- EXISTING SWALE
- EXISTING FENCE
- EXISTING STORM SEWER
- PROPOSED ASPHALT
- PROPOSED SIDEWALK
- ROAD FLOWLINE TRANSITION
- DIRECTION OF DRAINAGE

EXISTING STORM INLET

PROPOSED STORM SEWER W/ MANHOLE

PIPE RUN I.D.

SURFACE FLOW DESIGN POINT

SUB-BASIN ID

BASIN IDENTIFIER

AREA IN ACRES

100 YR C COEFF.

5 YR C COEFF.

BASIN SUMMARY TABLE

Basin Designation	Area (ac)	Q2 (cfs)	Q5 (cfs)	Q100 (cfs)
A	1.95	3.57	5.21	11.29
B	0.40	0.68	1.00	2.16
C	3.49	5.28	7.72	16.71
D	1.62	2.97	4.35	9.41
E	2.56	4.69	6.85	14.84
F	0.45	0.72	1.05	2.28
G	0.10	0.20	0.30	0.65
H	0.57	0.74	1.09	2.65
OF-1	0.16	0.32	0.46	0.99
OF-2	0.08	0.00	0.00	0.09
OF-3	0.23	0.17	0.25	0.80
OF-4	0.81	1.18	1.74	4.29
OF-5	0.47	0.42	0.63	1.86
OF-6	0.25	0.00	0.00	0.13

PEAK FLOW SUMMARY TABLE

Design Point	Contributing Basin(s) (ac)	Contibuting Area (ac)	Q2 (cfs)	Q5 (cfs)	Q100 (cfs)
1	A-H	11.13	18.85	27.57	60.00
2	D, E	4.18	7.66	11.20	24.25
3	D	1.62	2.97	4.35	9.41
4	A-C, F, G	6.38	10.45	15.28	33.09
5	A,B, C	5.84	9.53	13.93	30.16
6	A	1.95	3.57	5.21	11.29
7	F, G	0.54	0.92	1.35	2.93
8	C, F	3.93	6.00	8.77	18.99

SCALE 1"=50' (50 0 50 100 FEET)

811 Know what's below. Call before you dig.

LEGAL DESCRIPTION

LOTS 1, 2, 3, 4 & OUTLOT A, VINCENT'S EAST ADDITION THIRD FILING, COUNTY OF WELD, STATE OF COLORADO.

BASIS OF BEARING

GPS DERIVED BEARINGS BASED ON A BEARING OF SOUTH 00°16'1 0" EAST ALONG THE EASTERLY LINE OF THE NORTHWEST QUARTER OF SECTION 5, BETWEEN A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 14823" IN RANGE BOX PER MONUMENT RECORD AT THE NORTH QUARTER CORNER OF SECTION 5 AND A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 13155" IN RANGE BOX (PER MONUMENT RECORD) AT THE CENTER QUARTER CORNER OF SECTION 5 AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83/07). ALL BEARINGS SHOWN HEREON ARE RELATIVE THERETO.

BENCHMARK

GPS DERIVED ELEVATIONS BASED ON NGS POINT U 260 RESET, WITH A PUBLISHED ELEVATION OF 4893.9 FEET (NAVD88), BEING A FOUND STANDARD NGS BM DISK STAMPED U 260 RESET 1993 SET IN A DRILL HOLE IN A CONCRETE DIVISION BOX LOCATED ON COUNTY ROAD 16. SEE NGS SHEET FOR MORE INFORMATION. AN ONSITE BENCHMARK WAS ESTABLISHED AT THE SOUTHERLY END OF BETH AVENUE R.O.W., BEING A SET 1 1/2" ALUMINUM CAP STAMPED "CP-1" WITH AN ELEVATION OF 4916.30 FEET.

CIVIL ENGINEER:
WILSON & COMPANY
1675 BROADWAY, SUITE 200
DENVER, COLORADO 80202
PHONE: 303-297-2976
FAX: 303-297-2983
www.wilsonco.com

PROPERTY OWNERS:
VINCENT VILLAGE, LLC (BOB LEINO)
5300 DTC PKWY STE 100
GREENWOOD VILLAGE, CO
PHONE: 720-339-8841

SEAL:

PROJECT NAME: VINCENT VILLAGE, LLC
FORT LUPTON, COLORADO

REV.:	DATE	DESCRIPTION	BY

PROJECT NO:	18-600-421-00
DESIGNED BY:	EMR
DRAWN BY:	EMR/TGW
CHECKED BY:	JMG/KMG
DATE:	JULY 3, 2019

SHEET TITLE: DRAINAGE MAP

SHEET NO: C3.07

M:\MSD\18-600-421-00\2_Disciplines_SHEETS\2_Sheets - civil\Vincent Village - C3.06 - Drainage Map.dwg

7/3/2019

WILSON &COMPANY
1675 Broadway, Ste.200
Denver, CO 80202
303-297-2976 phone
303-297-2693 fax

detention basin via a proposed storm sewer system. The detention pond flow will then be conveyed to the existing storm sewer system located along the western property line (parallel with Rollie Avenue). Runoff from offsite basin, OF-3 through OF-5, will ultimate drain to the existing storm sewer system along Rollie Avenue via a series of culvert crossing and the existing swale along the southern property line (parallel with Colorado State Highway 52) before continuing north at the southwest corner of the site to said existing storm sewer network. Basins OF-1 and OF-2 runoff will also flow to this existing storm drainage network along the western property line. Offsite basin OF-6 will flow to the existing ditch along the eastern property line.

B. Specific Details

The drainage analysis for the Vincent Village development site has been divided into fourteen (14) drainage basin as shown on the enclosed Drainage map (see Appendix A). Runoff from onsite areas have been designated using letters (e.g. A) and areas that drain offsite have been designated using the prefix "OF-" followed by a number (e.g. OF-1). All onsite runoff will be regulate through the proposed detention pond.

Below is the description of each basin.

Basin A: This basin consists of the southwest portion of the site having an area of 1.95 acres. It has an assumed imperviousness of 80.00% for future development. All runoff from this area will drain to the proposed detention pond.

Basin B: This basin consists of Dale's Way from Colorado State Highway 52 to proposed 2nd Street, having an area of 0.40 acres. It has an assumed imperviousness of 80.00%. All runoff from this area will drain to the proposed detention pond.

Basin C: This basin consists of the southeast portion of the site, east of Dale's Way and south of 2nd Street, having an area of 3.49 acres. It has an assumed imperviousness of 80.00% for future development. All runoff from this area will drain to the proposed detention pond.

Basin D: This basin consists of the northeast portion of the site having an area of 1.62 acres. It has an assumed imperviousness of 80.00% for future development. All runoff from this area will drain to the proposed detention pond.

Basin E: This basin consists of the north portion of the site, north of proposed 2nd St., having an area of 2.56 acres. It has an assumed imperviousness of 80.00% for future development. All runoff from this area will drain to the proposed detention pond.

HIGHER Relationships
SHARED OWNERSHIP • COLLABORATION
INTENSITY • DISCIPLINE • SOLUTIONS

City of Fort Lupton Planning & Building
Attn: Public Works Department
130 S McKinley Avenue
Fort Lupton, CO 80621

Subject: Champion Xpress Car Wash Trip Generation Memorandum

Dear Planning & Building Department,

Introduction & Objective

This memorandum aims to provide an estimated trip generation analysis for the proposed Champion Xpress Car Wash and demonstrate that the car wash's trip generation is in conformance with the Vincent Village Traffic Impact Study prepared by Wilson & Company dated December 2018 (VVTIS) [Appendix A].

Champion Xpress Car Wash

The car wash is proposed for 120 Copper place.

> Legal Description: LOT 7, AMENDED PLAT OF LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION IN THE CITY OF FORT LUPTON, COUNTY OF WELD, COLORADO.

The Car Wash is open to customers 12 hours a day from 8 a.m. to 8 p.m. The Champion Xpress Car wash operates with three Employees on site. The AM shift begins one hour to a half-hour before the car wash opens, and the PM shift ends one hour to a half-hour after the car wash closes.

Trip Generation

Total trips generated by the Champion Xpress Car Wash were calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition [Appendix B]. Trip generation calculations provided in Table 1 are sourced from the ITE common trip generation rates during the PM peak hour. Trips calculated use ITE Land Use Code 948 (Automated Car Wash).

Land Use Code 948: Automated Car Wash

- Unit Site =1,000 Gross floor area.
- Trips per unit 14.2 (PM peak hour)
- Champion Xpress Carwash Size- 4,360 square feet (SF)= 4.36 Units

Table 1. Champion Xpress Car Wash Trip Generation

		AM			PM		
Size	**Daily Total**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Trip Generation with 60 % "Pass-By" Trip Reduction*	297	24	12	12	24	12	12
Total Daily Trip Generation	**297**						

* Per the ITE 10th Edition Trip Generation Manual, all land uses in the 800 and 900 land-use code series are entitled to a pass-By" Trip reduction of 60% if the building is less than 50,000 SF. Total Trip Generation uses 60% "Pass-By" Trip Reduction*

Conformance with Vincent Village Traffic Study

The VVTIS calculated 5,288 total daily trips for the Vincent Village Commercial Development. The addition of the car wash does not exceed that number with the currently in place and entitled properties. Table 2 provides the total daily trips for the Champion Xpress Car wash and the daily trips generated by the currently in place and entitled properties.

Moreover, VVTIS calculated 1,972 daily trips generated between Lots 6 &7 of the Vincent East Subdivision, and the addition of the car wash will not exceed this number. A Dental Office is proposed on Lot 6 and generates 110 daily trips based on Table 1. Lots 6 & 7 were initially contemplated as a high-turnover sit-down restaurant with a; the VVTIS used land-use code 932 to calculate the restaurant's trip generation. With the replacement of the restaurant with the car wash and the dental office, the trip generation between both Lots 6 & 7 is reduced; refer to Table 3.

Table 2. *Vincent Village Proposed Trip Generation*

			AM			PM		
Land Use	**Size**	**Daily****	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Dental Office (ITE Code 720)	3,000 SF	**110**	10	5	5	10	5	5
Auto Parts Sales (ITE Code 843) *	6,800 SF	**167**	17	7	7	13	7	7
Convenience Market with Gas Pumps (ITE Code 853) *	4, 200 SF	**1,987**	83	41	41	83	41	41
Drugstore w/drive (ITE Code 881) *	8,000 SF	**362**	33	16	16	33	16	16
Coffee Shop w/drive (ITE Code 937) *	2,000 SF	**416*****	35	17	17	35	17	17
Champion Xpress Car Wash (ITE Code 948) *	4360 SF	**297**	24	12	12	24	12	12
Total Daily Trips		**3,339**	202	98	98	202	98	98

Table 3*. Lots 6 & 7 of Vincent Village Proposed Trip Generation*

		AM			PM		
Land Use	**Daily****	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Dental Office (ITE Code 720)	**110**	10	5	5	10	5	5
Champion Xpress Car Wash (ITE Code 948) *	**297**	24	12	12	24	12	12
Proposed Total Daily Trips	**407**	202	98	98	202	98	98
VVTIS Total Daily Trips: -High-Turnover Sit-Down Restaurant (ITE Code 932) * -15,510 SF ***	**727**	61	30	30	61	30	30

** Per the ITE 10 Edition Trip Generation Manual, all land uses in the 800 and 900 land-use code series are entitled to a pass-By" Trip reduction of 60% if the building is less than 50,000 SF. Total Trip Generation uses 60% "Pass-By" Trip Reduction

** Daily Trips use actual hours of operation. Trip generation calculations are provided using the ITE 10 Edition common trip generation rates during the PM peak hour.

***Uses a General Urban/Suburban Trip Rate. "An area designated as General Urban/Suburban in the Trip Generation Manual is an area associated with almost homogeneous vehicle-centered access. Nearly all person trips that enter or exit a development site are by personal passenger or commercial vehicle. The area can be fully developed (or nearly so) at low-medium density with a mix of residential and commercial uses. The commercial land uses are typically concentrated at intersections o spread along commercial corridors, often surrounded by low-density, almost entirely residential development. Most commercial buildings are located behind or surrounded by parking."

Stacking & Queuing

No vehicle stacking or queuing shall occur in the 2nd street right-of-way north of the Property. Champion Xpress Employees are present during all hours of operation and will ensure that no vehicles are stacking into the 2nd street right-of-way. Additionally, from developing and operating over 100 car washes in the country, 7B Building and Development has observed prospective customers turn away if the queue of vehicles is near the maximum queuing capacity of the site.

In conjunction with the previous operational statements, based on the trip generation calculations delineated in Table 2, the car wash should not reach the maximum queue on the site. The Champion Xpress Car Wash can queue a maximum of 26 vehicles; refer to Appendix C to review the site plan and stacking document. Each car spends about two minutes in the car wash tunnel. Therefore, the car wash can process approximately 30 vehicles an hour. Based on the calculations in Table 2., 30 vehicles are more vehicles than expected during the peak hour.

Table 4. Site Queuing

Area	Max Number of Queued Vehicles
Pay Lanes	23
Car Wash Tunnel & Entrance	3
Total	**26**
Peak PM Trips	**24**
Vehicles Processed/hr. (2 minutes/vehicle)	**30**

APPENDIX A

TRAFFIC IMPACT STUDY



Prepared for:

Vincent Villages

Prepared by

Wilson & Company
Engineers & Architects

COLORADO LICENSED
JOSE ALCALA RODRIGUEZ
54141
José Alcala Rodriguez
12/07/2018
PROFESSIONAL ENGINEER

December, 2018

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1.0 INTRODUCTION

This introductory section of the report describes the essential elements of the proposed project, identifies the purpose for this study, presents a set of study objectives, and provides a definition of the study area.

1.1 PROJECT OVERVIEW

The Fort Lupton Commercial development, to be known as Vincent Village, will be located on a greenfield parcel southeast of downtown Fort Lupton, Colorado, in Weld County (**Figure 1**). The site is situated directly west of the Coyote Creek Golf Course Community and directly south of a medium-density, single-family residential subdivision, which wraps around to the west of the site. A church and family health center are located on the west side of Rollie Avenue, which forms the western margin of the site. To the south of the site, there is a mix of developments, including a supermarket, bank, hardware, family health center, and the City's Recreation Department offices. Appel Farms, a low-density, residential neighborhood is located south east of the development site south of SH 52 (1st Street).

The development site of approximately 11 acres is planned to be a mixed-use commercial center with approximately 75,000 square feet of retail and 15,000 square feet of sit-down restaurant.

Figure 2 shows that site circulation will include an internal, east-west roadway that will provide direct access to the interior of the site. This roadway will connect the eastern SH 52 access point to the Rollie Avenue access point at 2nd Street. The western SH 52 access point that will provide direct access to the four retail pads will connect to the internal, east-west roadway at a 'T' intersection near the southeast corner of the hotel parcel. The eastern access is proposed as ¾ access intersection – allowing right turns in and out of the site and left turns into the site. The Western access is proposed to be Right-In/Right-Out (RI/RO) only.

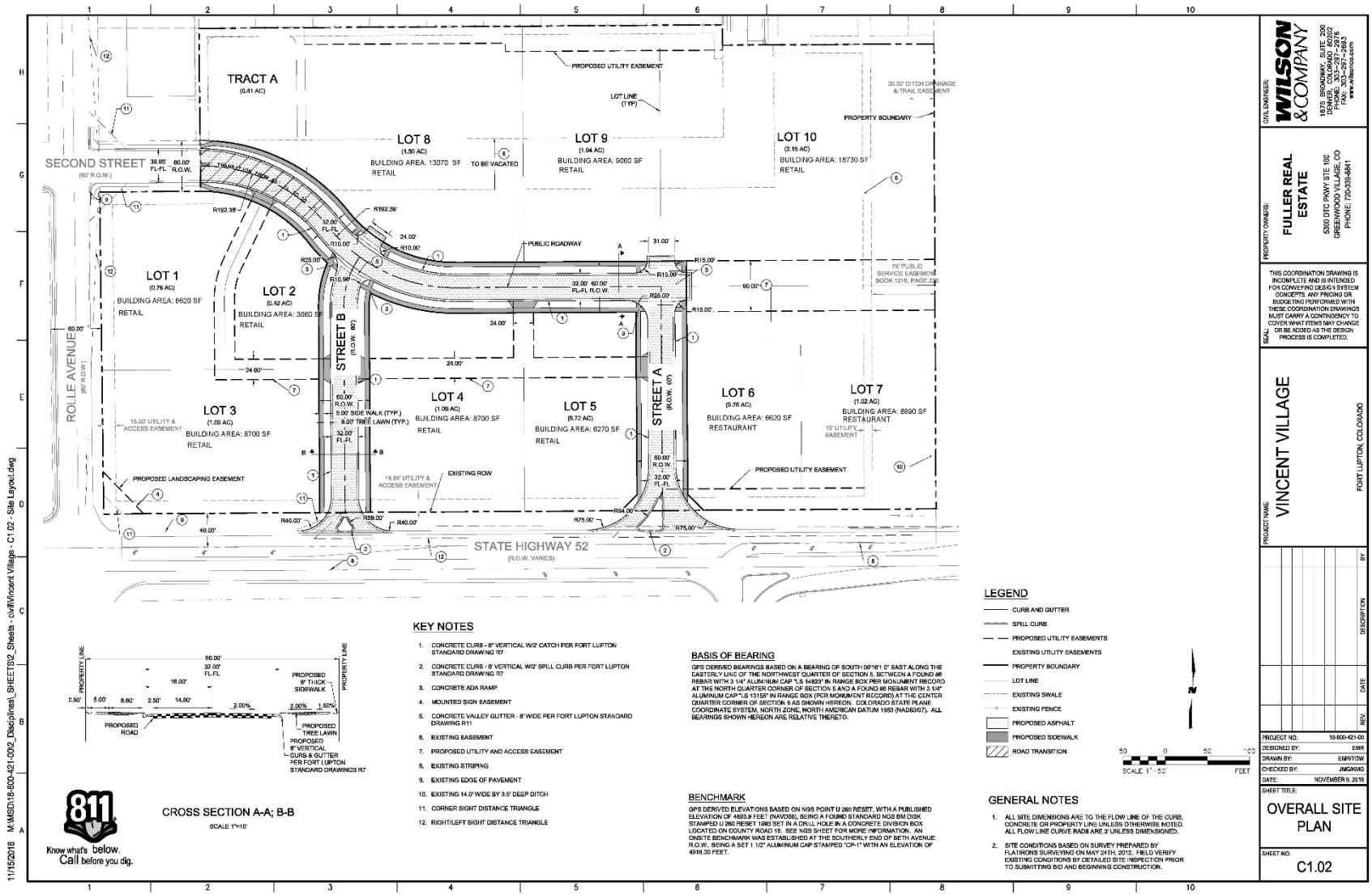
1.2 PURPOSE OF STUDY

The purpose of this Traffic Impact Study (TIS) is to identify potential impacts the development of Vincent Village may have on operations of the existing and future roadway system serving southeast Fort Lupton. This TIS provides an examination and assessment of existing traffic operations and long-term traffic conditions with the proposed development of Vincent Village.

Figure 1 | Project Vicinity Map



Figure 2 | Development Site Plan



1.3 STUDY AREA

The Colorado Department of Transportation (CDOT) recommends that the TIS provide an assessment of the Weekday AM and PM peak-hour conditions for the short- and long-term conditions associated with the development plan. The key study area intersections are listed below:

- SH 52 (1st Street) at Rollie Avenue (Existing)
- SH 52 Access to the Safeway Shopping Center (Existing ¾ Intersection)
- Rollie Avenue at 2nd Street (Existing)
- Eastern SH 52 Access to Vincent Village – ¾ Movement Only (Proposed)
- Western SH 52 Access to Vincent Village – RI/RO Movement Only (Proposed)

2.0 EXISTING CONDITIONS

This section presents information and data describing existing (current) traffic facilities and operations of those facilities. It also provides specific information relating to the operation of area intersections.

2.1 EXISTING ROADWAY SYSTEM

The primary facilities of interest forming the existing roadway system are SH 52 (1st Street) and Rollie Avenue. A description of these two roadways is presented in this section.

2.1.1 STATE HIGHWAY 52 (1ST STREET)

EXISTING CONDITIONS

SH 52 (1st Street) is an east-west, regional roadway that intersects with US-85 approximately 9/10ths of a mile west of the Vincent Village development site. Approximately 8.5 miles east of the site, SH 52 connects with Interstate 76 (I-76)/US-6 in the community of Hudson. This highway, which is part of the National Highway System (NHS), is functionally classified as a Non-Rural Arterial. The speed limit in the westbound direction in front of the majority of the site is 45 miles per hour (mph); this speed limit drops to 35 mph approximately 200 feet east of the SH 52/Rollie Avenue intersection center line. Farther east, the speed limit on SH 52 drops to 30 mph. The eastbound posted speed of SH 52 through the project area is 45 mph.

Along the southern edge of the Vincent Village site, SH 52 consists of one through lane in each direction separated by a median delineated by striping. Toward the eastern end of the site, a westbound left-turn only bay has been delineated by striping within the median to accommodate left turns by westbound traffic at the ¾ Intersection supporting access into the Safeway Shopping Center. A complementary exclusive eastbound right-turn only bay also has been established at this access point into the Safeway center. This ¾ Intersection includes a dedicated eastbound right-turn ramp, facilitating egress to SH 52 out of the Safeway Shopping Center.

The westbound approach at Rollie Avenue has a shared through/right-turn lane and an exclusive left-turn lane. SH 52 has a single westbound lane continuing west of the SH 52/Rollie Ave signalized intersection. The eastbound approach at this intersection has an exclusive left-turn lane, a through lane, and an exclusive right-turn lane. SH 52 continues east approximately 525 feet as two through lanes before separating into a through lane and exclusive right-turn lane at the entrance to the Safeway Shopping Center.

FUTURE CONDITIONS

The North Front Range Metropolitan Planning Organization (NFRMPO) and Denver Regional Council of Governments (DRCOG) planning documents indicate that SH 52 will, in the future, be a four-lane arterial roadway. Currently, SH 52 west of Rollie Avenue has been widened to accommodate this ultimate cross-section; however, it currently is striped as described above. SH 52 east of Rollie Avenue has been widened to ultimate cross-section on the south side as far as the entrance to the Safeway Shopping Center; but, it is striped as described above.

2.1.2 ROLLIE AVENUE

EXISTING CONDITIONS

Rollie Avenue is a north-south, local roadway that connects existing residential neighborhoods north of the Vincent Village site to SH 52. South of SH 52, it provides access to the Safeway Shopping Center as well as services and goods available at a Bank of Colorado branch, Ace Hardware, a family health center. The southbound approach of Rollie Avenue at SH 52 includes an exclusive right-turn lane and a shared through/left-turn lane. The northbound approach includes an exclusive left-turn lane and a shared through/right-turn lane. The Rollie Avenue cross-section north of SH 52 occupies a 66-foot right-of-way (ROW); whereas, the cross-section of Rollie Avenue ROW south of SH 52 occupies a 100-foot ROW.

FUTURE CONDITIONS

Currently, there are no plans to modify Rollie Avenue.

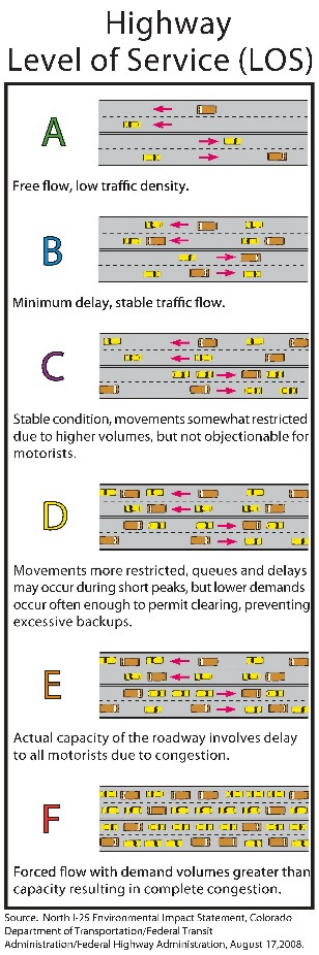
2.2 EXISTING TRAFFIC VOLUMES

Weekday AM and PM peak-hour turning movement counts were recorded at the SH 52/Rollie Ave intersection on Tuesday November 13, 2018. Existing traffic volumes are presented in **Figure 3** and **Figure 4**. Detailed traffic volume data is presented in **Appendix A**.

2.3 ANALYSES OF CURRENT TRAFFIC OPERATIONS

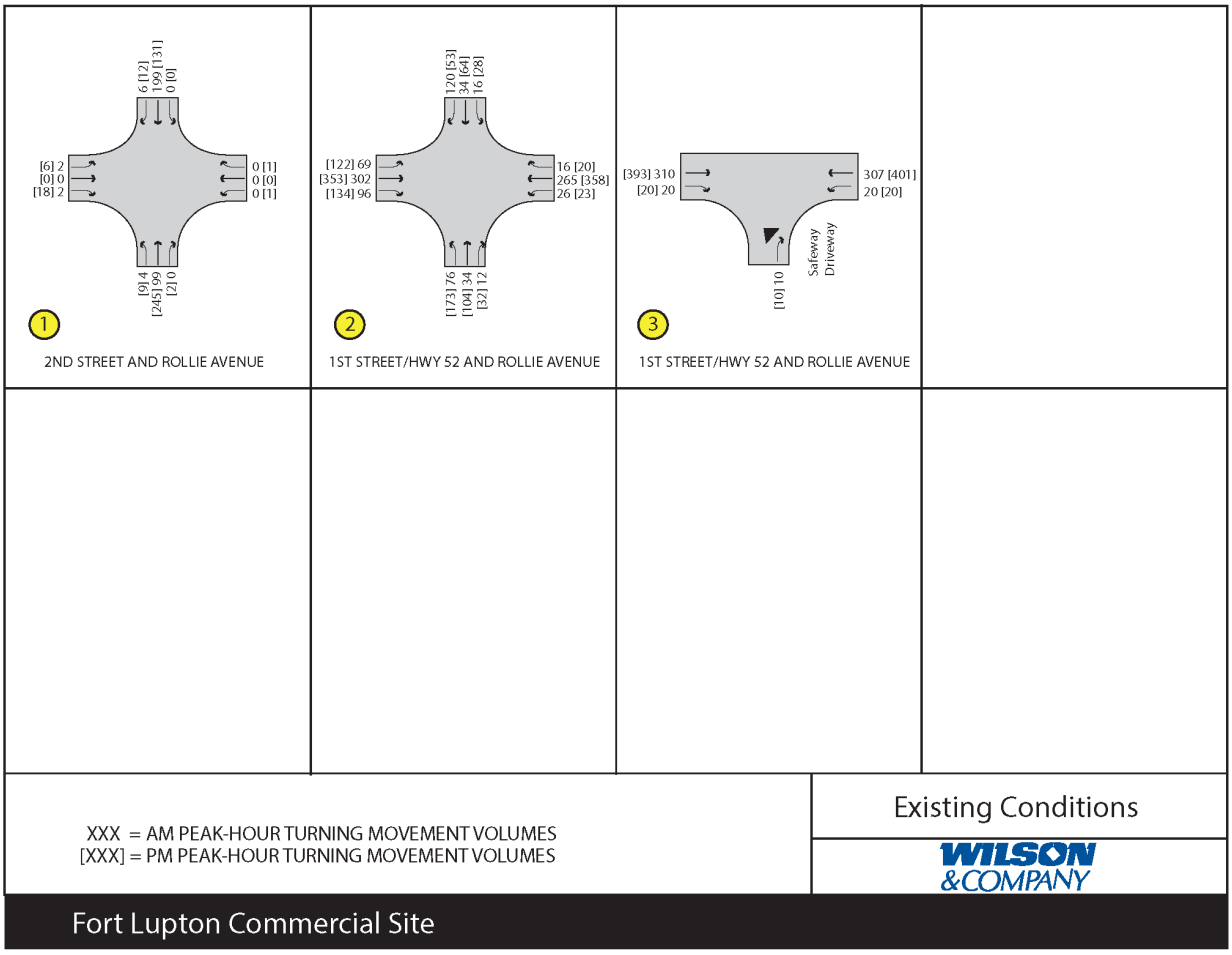
Peak-hour capacity analyses were performed using Synchro 10 traffic modeling software for existing (2018) conditions. Synchro 10 utilizes methodologies contained in the Highway Capacity Manual (HCM) 2010 developed by the Transportation Research Board (TRB) in consultations with the National Research Council (NRC). The Synchro 10 analyses result in a qualitative measure of the operational characteristics of an intersection.

Primary facilities of interest forming the existing roadway system were evaluated to determine current operating conditions, which are measured in terms of level of service (LOS). Most simply, LOS refers to a standard measurement used by transportation officials to reflect the relative ease of traffic flow, i.e., volume of traffic relative to design capacity of the roadway. A scale of 'A' to 'F' has been adopted, with free-flow traffic conditions being rated LOS 'A' and conditions of heavy congestion and delay are rated as LOS 'F' (see graphic depiction at right). LOS 'D' is considered the minimum desirable standard of operation.



Source: North I-25 Environmental Impact Statement, Colorado Department of Transportation/Federal Transit Administration/Federal Highway Administration, August 17,2008.

Figure 3 | Existing Peak Hour Traffic Volumes



A summary of the existing AM and PM peak hour traffic operations at the study area intersection in provided in **Table 1**. Each of the analyzed locations is currently operating at acceptable levels of service during both he AM and PM peak periods. Analysis reports for existing traffic operations are presented in **Appendix B**.

Table 1 | Existing Level of Service (LOS) Summary – AM (PM) Peak

Intersection Level of Service (LOS) Summary Table - AM (PM)					
		Existing			
Intersection		Northbound	Southbound	Eastbound	Westbound
2nd Street & Rollie Avenue	Delay	0.3 (0.3)	0 (0)	10.1 (9.9)	0 (10.9)
	LOS	A (A)	A (A)	B (A)	A (B)
	Delay	0.2 (0.8)			
	LOS	A (A)			
1st Street/Hwy 52 & Rollie Avenue	Delay	12.4 (14.2)	7.1 (13.7)	20 (22.7)	25 (33.5)
	LOS	B (B)	A (B)	B (C)	C (C)
	Delay	18.5 (23)			
	LOS	B (C)			
1st Street/Hwy 52 & Existing South Driveway	Delay	10.2 (10.8)	-- (--)	0 (0)	0.5 (0.4)
	LOS	B (B)	-- (--)	A (A)	A (A)
	Delay	0.4 (0.3)			
	LOS	A (A)			

3.0 PROPOSED SITE DEVELOPMENT PLAN

This chapter provides a definition of the proposed Vincent Village development concept and describes expected access demand (e.g., ingress and egress traffic) at the site once it is developed.

3.1 ELEMENTS OF THE DEVELOPMENT PLAN

The proposed Vincent Village development will include a hotel, two restaurants, and four retail buildings. The development site of approximately 11.5 acres is planned to be a mixed-use commercial center with approximately 75,000 square feet of retail and 15,000 square feet of sit-down restaurant. A conceptual site plan for Vincent Villages was shown previously in **Figure 2**.

The development site is accessible from SH 52 (1st Street) on the south and Rollie Avenue on the west. The SH 52/Rollie Avenue intersection at the southwest corner of development site is controlled by a traffic signal. Two access points for Vincent Village will be established on SH 52: "Driveway 1" will be located approximately 300 feet east of the intersection center line, and "Driveway 2" will be located approximately 400 feet farther east of the intersection in the vicinity of the ¾ Intersection facilitating access to the Safeway Shopping Center. Access to Rollie Avenue will be established by way of an existing roadway segment aligned with 2nd Street. The presence of Coyote Creek Golf Course east of the site precludes access on the east side of the site.

3.2 SITE TRIP GENERATION

Estimated vehicle-trips generated by the proposed land uses at Vincent Village were estimated using Land Use Codes documented in the Trip Generation Manual, Tenth Edition, published by the Institute of Transportation Engineers (ITE). The applicable ITE Land Use Codes are identified in **Table 2**. Total daily and AM and PM peak-hour vehicle-trips generated by the site activity is presented in this table.

Table 2 | Trip Generation Summary

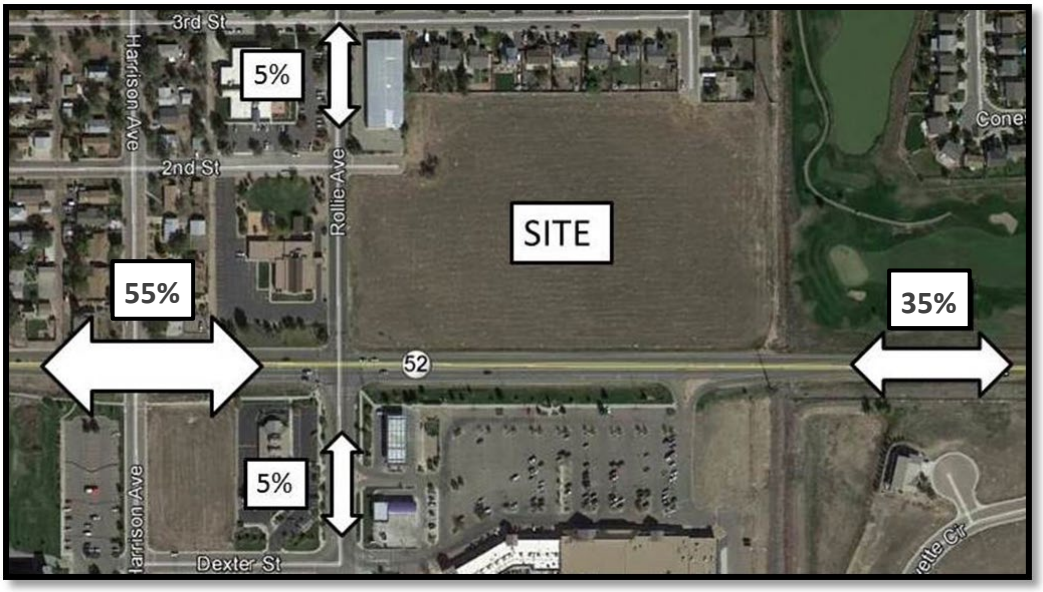
		Proposed Land Use		Weekday	AM Peak			PM Peak		
Lot #	Size (SF)	ITE LUC	Description	Total	Total	Enter	Exit	Total	Enter	Exit
1-5 & 8-10	74,810	814	Specialty Retail Center	3,316	N/A	N/A	N/A	203	89	114
6 & 7	15,510	932	High-Turnover (Sit-Down) Restaurant	1,972	179	93	86	173	102	71
			Totals	5,288	179	93	86	376	191	185

3.3 TRIP DISTRIBUTION

The site trip distribution assumptions are presented in **Figure 4**. The distribution was developed with consideration of surrounding land uses and the existing and proposed roadway network. On SH 52, Site access at Driveway 1 will be limited to RI/RO only, due to proximity of the left-turn only bay at the SH 52/Rollie Avenue intersection. Driveway 2 will be a ¾ Intersection, not allowing exiting left turning movements. On Rollie Avenue, a site access driveway will align with the existing 2nd Street intersection.

Recognizing the proximity of the proposed Vincent Village to Fort Lupton and US-85 to the west, site-related trips were allocated as 55 percent to/from the west. The distance to I-76 and lower population base, and consideration of future growth projections justifies an allocation of 35 percent of the site-generated trips to/from the east. The remaining 10% of site-generated trips are assumed to be associated with north/south travel on Rollie Avenue.

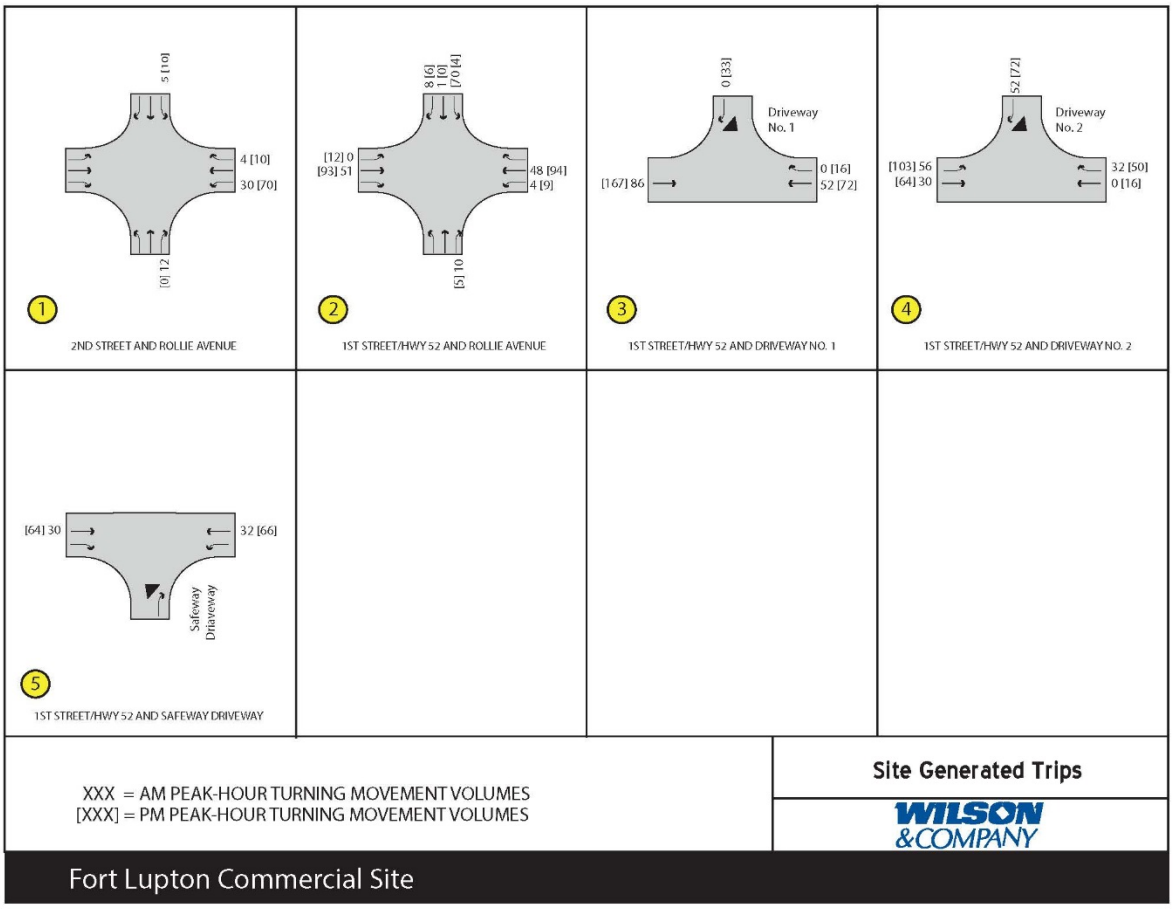
Figure 4 | Directional Distribution of Weekday Site-Related Traffic: Vincent Village



3.4 TRIP ASSIGNMENT

Site-generated traffic was assigned to the public roadway network in accordance with directional distribution discussed above (refer to **Figure 4**). The results of this process are displayed in **Figure 5**.

Figure 5 | Site-Generated Trips



4.0 BACKGROUND TRAFFIC CONDITIONS

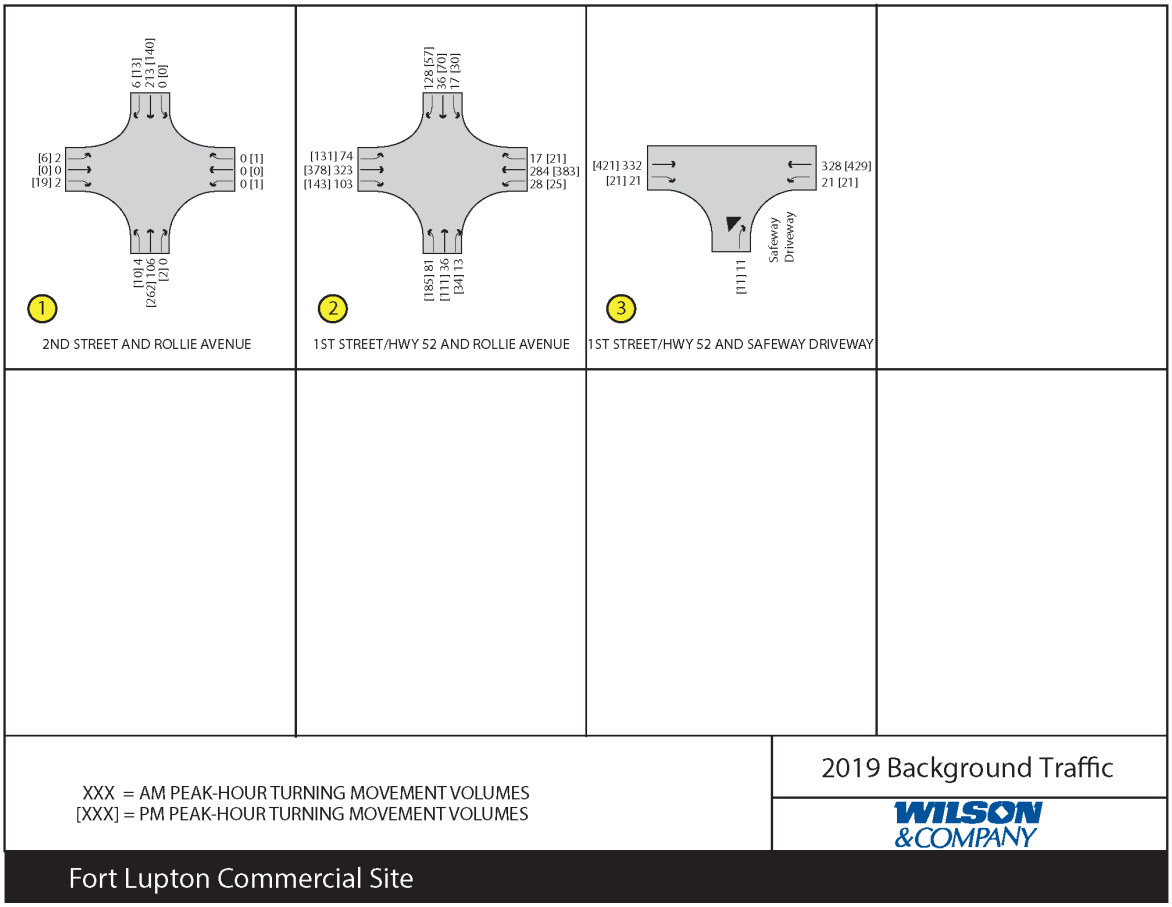
This chapter provides information regarding traffic conditions anticipated to occur on the roadway system without construction of the proposed Vincent Villages development.

4.1 2019 AND 2039 BACKGROUND TRAFFIC

Background traffic reflects use of the adjacent public roadway network that will be unrelated to and independent of the proposed Vincent Village development site. Background traffic volumes are were estimated to represent the near-term conditions prior to full development and opening of the site in 2019, as well as 20 years (Year 2039) beyond opening year.

CDOT recorded a 2015 ADT traffic volume of 11,000 vpd on SH 52 adjacent to Vincent Village site (MP 20.67-25.462). According to the 2018 Fort Lupton Transportation Plan, the forecasted, future-year 2040 ADT volume for this segment of SH 52 is 30,000 vpd. The existing and forecast volumes compute to a growth factor of 1.72 for the 25-year period analyzed, representing an annual growth rate of approximately 7% per year, so a factor of 1.07 was used to calculate 2019 background volumes, which are shown in **Figure 6**.

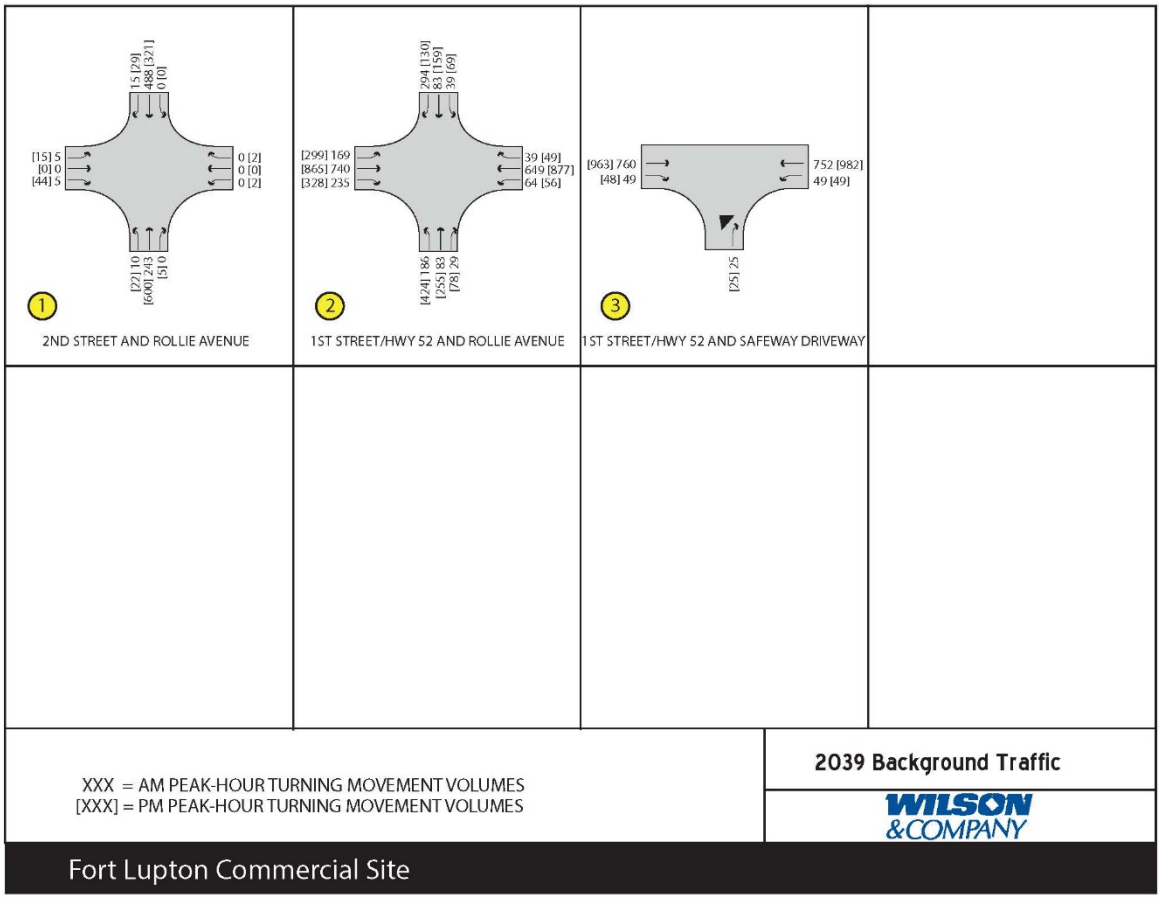
Figure 6 | 2019 Background Traffic



The growth factor was similarly applied to calculate 2039 background traffic associated with key intersections on SH 52 and Rollie Avenue, which are shown in **Figure 7**.

The high growth factor reflects the long-range trend of SH 52 maturing in to a regional arterial roadway and travel corridor, which is consistent with the North Front Range Metropolitan Planning Organization (NFRMPO) and Denver Regional Council of Governments (DRCOG) planning documents.

Figure 7 | 2039 Background Traffic



4.2 2019 AND 2039 BACKGROUND TRAFFIC OPERATIONAL ANALYSIS

The 2019 and 2039 Background traffic volumes were then analyzed to predict Level of Service at study area intersections without construction of the proposed Vincent Villages development. Year 2039 conditions assumed that 1st Street/Hwy 52 would be widened to two lanes per direction throughout the study area. A summary of anticipated operations is provided in **Table 3** for both 2019 and 2039 Background conditions.

Table 3 | Background Traffic Level of Service (LOS) Summary

Intersection Level of Service (LOS) Summary Table - AM (PM)									
		2019 Background				2039 Background			
Intersection		NB	SB	EB	WB	NB	SB	EB	WB
2nd Street & Rollie Avenue	Delay	0.3 (0.3)	0 (0)	10.3 (10)	0 (11.1)	0.3 (0.3)	0 (0)	14.8 (15.2)	0 (19.5)
	LOS	A (A)	A (A)	B (B)	A (B)	A (A)	A (A)	B (C)	A (C)
	Delay	0.2 (0.8)				0.3 (1.1)			
	LOS	A (A)				A (A)			
1st Street/Hwy 52 & Rollie Avenue	Delay	10.8 (12.7)	7.3 (12.6)	20.3 (24.8)	24.8 (36.3)	28.5 (95.2)	20.8 (79.1)	19.4 (42)	20.4 (48.2)
	LOS	B (B)	A (B)	C (C)	C (D)	C (F)	C (E)	B (D)	C (D)
	Delay	18.4 (24.2)				20.9 (58.6)			
	LOS	B (C)				C (E)			
1st Street/Hwy 52 & Existing South Driveway	Delay	10.4 (11.1)	-- (--)	0 (0)	0.5 (0.4)	15.5 (19.4)	-- (--)	0 (0)	0.6 (0.5)
	LOS	B (B)	-- (--)	A (A)	A (A)	C (C)	-- (--)	A (A)	A (A)
	Delay	0.4 (0.3)				0.5 (0.5)			
	LOS	A (A)				A (A)			

Each of the analyzed study area intersections is anticipated to continue to operate at acceptable levels of service with the 2019 Background condition during both the AM and PM peak periods. Anticipated growth through 2039 will cause the 1st Street/Hwy 52 & Rollie Avenue intersection to drop to a LOS "E" condition during the PM peak Background traffic condition. Other study area intersections will operate at acceptable levels of service.

Peak-hour Background traffic operations analyses worksheets for both 2019 and 2039 are in **Appendix C**.

5.0 TOTAL TRAFFIC CONDITIONS

Project site-generated traffic volumes (refer to **Table 1** and **Figure 5**) were combined with the 2019 and 2039 background traffic volumes (see **Figures 6 and 7**) to obtain estimates of the Total traffic anticipated on the study area roadway network with the additional traffic generated by the Vincent Village development. **Figures 8 and 9** show the Total traffic volumes anticipated in 2019 and 2039, respectively. Level of service analyses were conducted to identify the expected Total traffic conditions for both years. Results are summarized in **Table 4**. Worksheets supporting the conclusions stated for both the 2019 and 2039 total traffic analysis worksheets are presented in **Appendix D.**

5.1 2019 TOTAL TRAFFIC OPERATIONAL ANALYSIS

With the addition of project traffic at opening of the site in 2019, the analyzed site intersections will continue to operate at acceptable levels during both the AM and PM peak periods.

5.2 2039 TOTAL TRAFFIC OPERATIONAL ANALYSIS

Each of the analyzed study area intersections will continue to operate with acceptable levels of service in Year 2039 with the addition of the project traffic, with the exception of the intersection of 1st Street/Hwy 52 & Rollie Avenue, which was forecast to operate at LOS “E” during the PM peak Background traffic condition, and will continue to do so with the addition of project traffic.

Figure 8 | 2019 Total Traffic

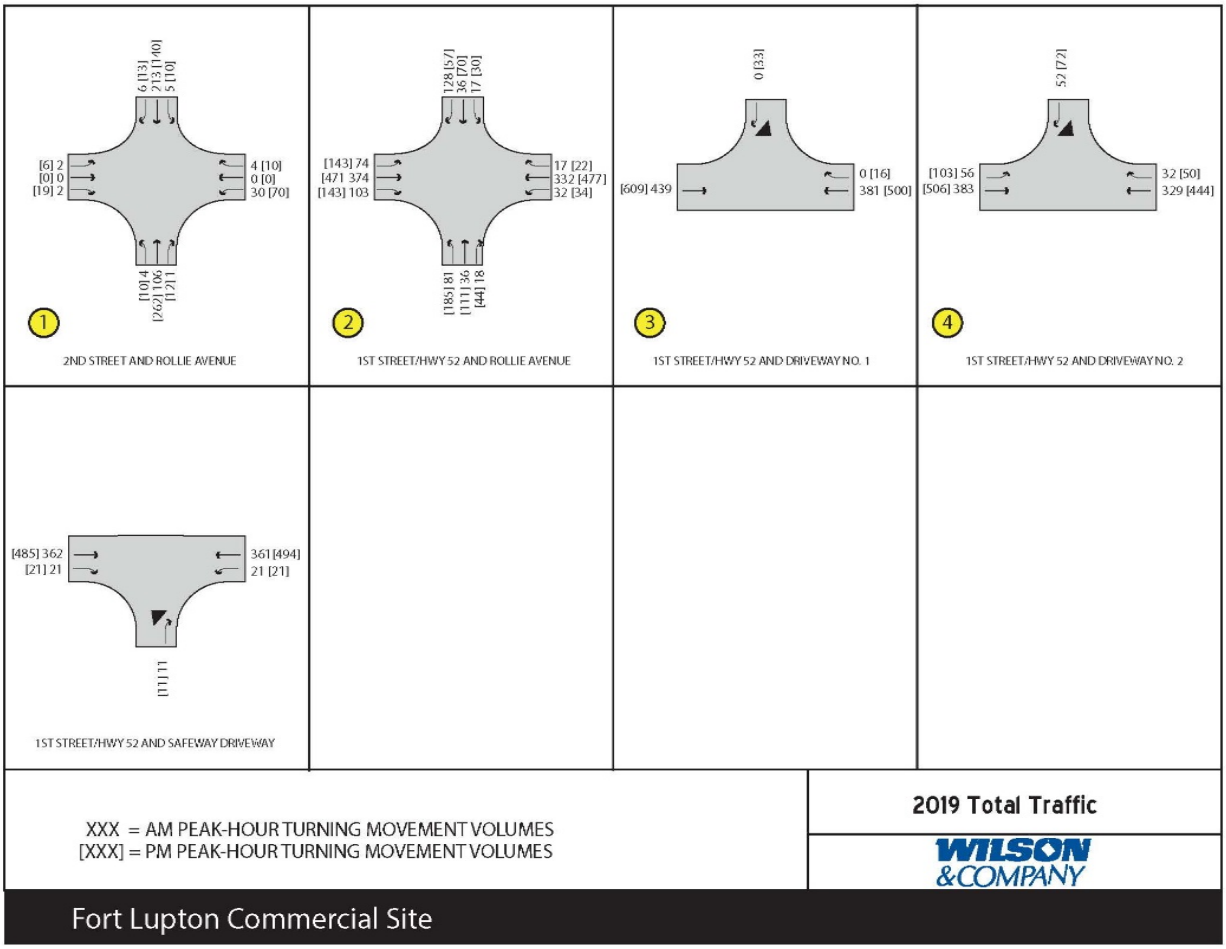


Figure 9 | 2039 Total Traffic

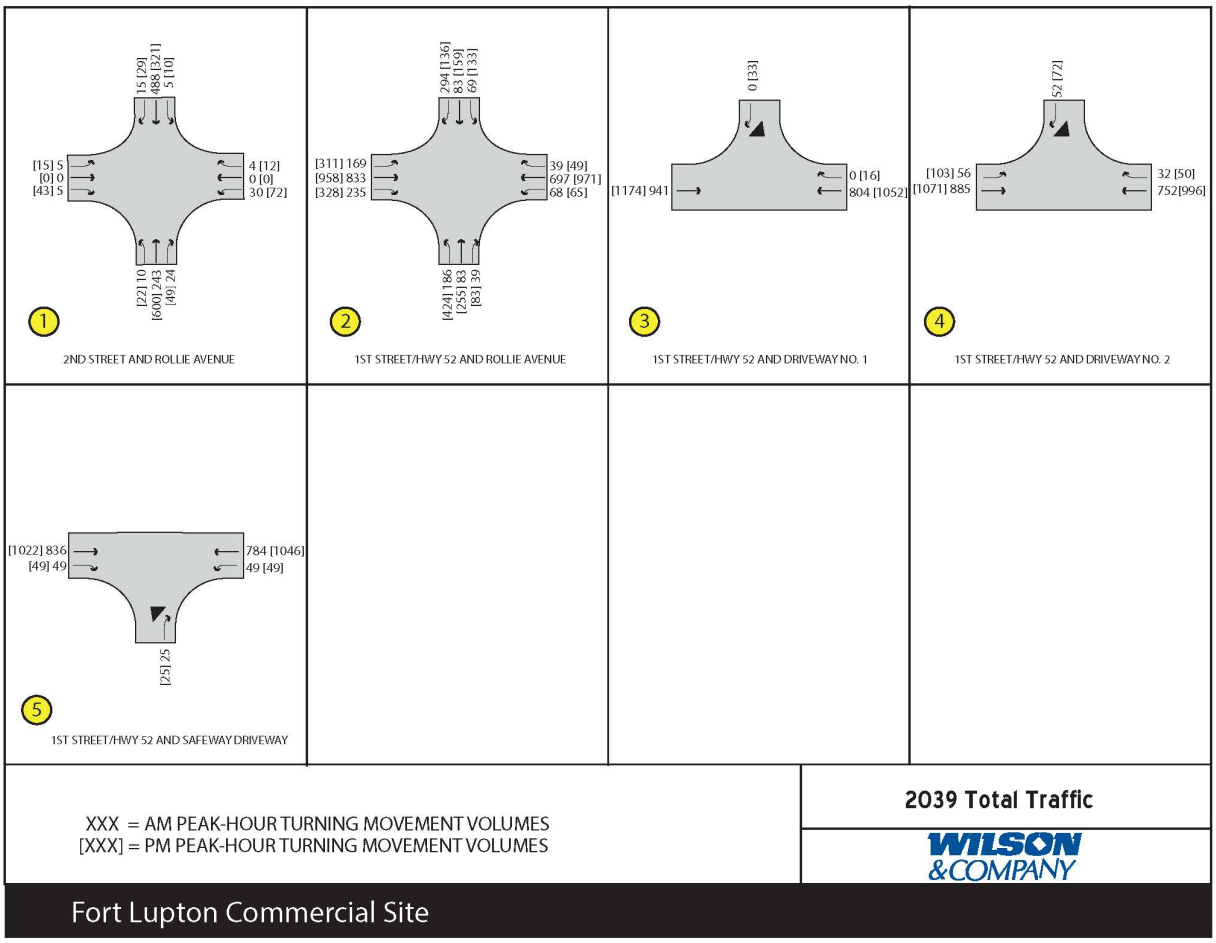


Table 4 | Total Traffic Conditions Level of Service (LOS) Summary

Intersection Level of Service (LOS) Summary Table - AM (PM)									
		2019 Total Traffic				2039 Total Traffic			
Intersection		NB	SB	EB	WB	NB	SB	EB	WB
2nd Street & Rollie Avenue	Delay	0.3 (0.3)	0.2 (0.5)	10.4 (10.1)	11.3 (14.1)	0.3 (0.3)	0.1 (0.3)	15.2 (16.1)	18.9 (45.6)
	LOS	A (A)	A (A)	B (B)	B (B)	A (A)	A (A)	C (C)	C (E)
	Delay	1.4 (2.8)				1.1 (4.3)			
	LOS	A (A)				A (A)			
1st Street/Hwy 52 & Rollie Avenue	Delay	10.5 (12.7)	9.2 (17.2)	25.1 (43.2)	28.8 (71.4)	20.6 (126.4)	19.1 (76.8)	24.5 (53.8)	23.2 (52.3)
	LOS	B (B)	A (B)	C (D)	C (E)	C (F)	B (E)	C (D)	C (D)
	Delay	22.1 (42.5)				22.8 (70.2)			
	LOS	C (D)				C (E)			
1st Street/Hwy 52 & Existing South Driveway	Delay	10.6 (11.7)	-- (--)	0 (0)	0.4 (0.3)	11.9 (13)	-- (--)	0 (0)	0.6 (0.5)
	LOS	B (B)	-- (--)	A (A)	A (A)	B (B)	-- (--)	A (A)	A (A)
	Delay	0.4 (0.3)				0.5 (0.4)			
	LOS	A (A)				A (A)			
1st Street/Hwy 52 & Driveway 1 (Future)	Delay	-- (--)	0 (12.2)	0 (0)	0 (0)	-- (--)	0 (22.4)	0 (0)	0 (0)
	LOS	-- (--)	A (B)	A (A)	A (A)	-- (--)	A (C)	A (A)	A (A)
	Delay	0 (0.4)				0 (0.3)			
	LOS	A (A)				A (A)			
1st Street/Hwy 52 & Driveway 2 (Future)	Delay	-- (--)	10.7 (12.1)	1 (1.5)	0 (0)	-- (--)	11.7 (13.8)	0.6 (1)	0 (0)
	LOS	-- (--)	B (B)	A (A)	A (A)	-- (--)	B (B)	A (A)	A (A)
	Delay	1.2 (1.6)				0.7 (1)			
	LOS	A (A)				A (A)			

6.0 FINDINGS AND RECOMMENDATIONS

6.1 SUMMARY OF DEVELOPMENT ACTION

The proposed Fort Lupton Commercial development at Vincent Village is located on the southeastern portion of Fort Lupton, Colorado. The development site is located in the northeast corner of the SH 52/Rollie Avenue intersection. It is expected to be completed in 2019, and will include retail and restaurant uses.

6.2 FORECAST INTERSECTION OPERATIONS

Access to the proposed Vincent Village will be provided via three access points. Two access points for Vincent Village will be established on SH 52 (1st Street): one will be located approximately 300 feet east of the intersection center line, and the other will be located approximately 400 feet farther east of the intersection in the vicinity of the ¾ Intersection facilitating access to the Safeway Shopping Center to the south. The third access point will connect to Rollie Avenue by way of an existing roadway segment aligned with 2nd Street. The presence of Coyote Creek Golf Course east of the site precludes access on the east side of the site. Five intersections (highlighted below) are considered critical to potential traffic impacts associated with development of Vincent Village:

- SH 52 (1st Street) at Rollie Avenue (Existing)
- SH 52 Access to the Safeway Shopping Center (Existing ¾ Intersection)
- Rollie Avenue at 2nd Street (Existing)
- Eastern SH 52 Access to Vincent Village – ¾ Movement Only (Proposed)
- Western SH 52 Access to Vincent Village – RI/RO Movement Only (Proposed)

The analysis indicates that each of the analyzed intersections will operate with acceptable delays during both the AM and PM peak periods with the addition of site traffic in both 2019 and 2039, with the exception of the intersection of 1st Street/Hwy 52 & Rollie Avenue, which is forecast to operate at LOS “E” during the PM peak Background traffic condition (without site traffic), and will continue to do so with the addition of project traffic.

6.3 FINDINGS AND RECOMMENDATIONS

The following is a summary of the findings and recommendations addressing the traffic impacts of the Fort Lupton Commercial development.

With completion of Vincent Village, the proposed commercial development project is forecast to generate approximately 5,288 trips per day. The AM peak hour will account for 179 of these trips (approximately 3%), and the PM peak hour will account for 377 trips (approximately 7%). Based on the analysis results, the roadways in the vicinity of the site will be able to accommodate the increase in traffic, with the following recommended improvements.

- Re-stripe the 1st Street/Hwy 52 center median with an eastbound left-turn only deceleration lane at the easterly site driveway to support access to the Vincent Village development. This action will create a new ¾ Intersection opposing the ¾ Intersection providing access to the Safeway Shopping Center on the south side of 1st Street. A

physical, triangular island will need to be constructed to prohibit exiting left turns from Vincent Village and ensure separation of opposing traffic movements.

- Optimize the signal timing at the 1st Street/Hwy 52 & Rollie Avenue intersection to accommodate additional turning movements associated with access to Vincent Village via Rollie Avenue.
- Prior to Year 2039, widening of 1st Street/Hwy 52 will be required by others to accommodate background traffic due to regional growth. Corridor improvements identified by NFRMPO and DRCOG planning documents call for the corridor to be widened to a four-lane arterial roadway, which was assumed to be constructed by 2039.
- In conjunction with the widening of 1st Street/Hwy 52, the City should consider construction of a southbound left turn lane at the intersection of 1st Street/Hwy 52 & Rollie Avenue to provide additional capacity for background traffic growth at this location.

APPENDICES

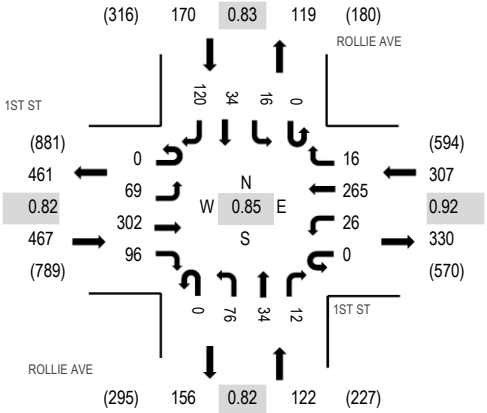
APPENDIX A

Traffic Turning Movement Counts

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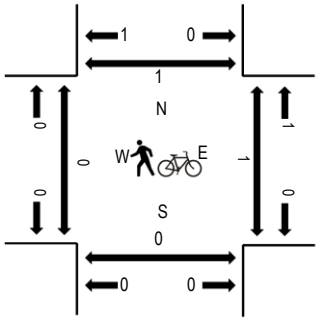
Location: 1 ROLLIE AVE & 1ST ST AM
Date and Start Time: Tuesday, November 13, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



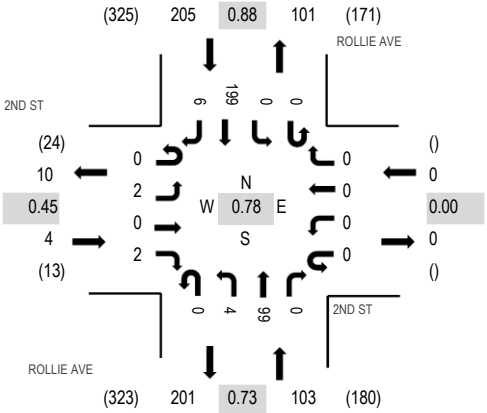
Traffic Counts

Interval Start Time	1ST ST Eastbound				1ST ST Westbound				ROLLIE AVE Northbound				ROLLIE AVE Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	8	52	17	0	4	68	6	0	12	3	5	0	4	9	23	211	1,001	0	0	0	0
7:15 AM	0	6	45	13	0	3	68	1	0	19	1	1	0	3	8	43	211	1,053	0	0	0	0
7:30 AM	0	14	68	19	0	3	83	3	0	11	6	4	0	3	10	43	267	1,066	0	0	0	0
7:45 AM	0	26	77	28	0	4	80	3	0	21	9	1	0	5	13	45	312	1,016	0	0	0	0
8:00 AM	0	22	94	27	0	10	50	4	0	19	8	2	0	3	3	21	263	925	0	1	0	1
8:15 AM	0	7	63	22	0	9	52	6	0	25	11	5	0	5	8	11	224		0	0	0	0
8:30 AM	0	11	56	22	0	12	56	0	0	20	7	6	0	3	9	15	217		0	0	0	0
8:45 AM	0	10	59	23	0	11	54	4	0	23	4	4	0	2	8	19	221		0	0	0	0
Count Total	0	104	514	171	0	56	511	27	0	150	49	28	0	28	68	220	1,926		0	1	0	1
Peak Hour	0	69	302	96	0	26	265	16	0	76	34	12	0	16	34	120	1,066		0	1	0	1

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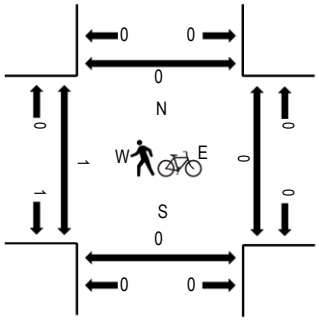
Location: 2 ROLLIE AVE & 2ND ST AM
Date and Start Time: Tuesday, November 13, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



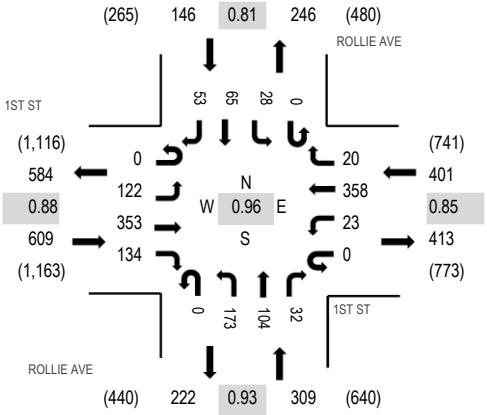
Traffic Counts

Interval Start Time	2ND ST Eastbound				2ND ST Westbound				ROLLIE AVE Northbound				ROLLIE AVE Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	0	18	0	0	0	41	0	59	310	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	56	1	66	312	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	22	0	0	0	61	1	85	296	0	0	0	0
7:45 AM	0	1	0	2	0	0	0	0	0	1	39	0	0	0	54	3	100	260	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	3	29	0	0	0	28	1	61	208	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	0	0	1	22	0	0	0	24	2	50		1	0	0	0
8:30 AM	0	0	0	3	0	0	0	0	0	3	16	0	0	0	26	1	49		0	0	0	0
8:45 AM	0	2	0	3	0	0	0	0	0	5	12	0	0	0	24	2	48		0	0	0	0
Count Total	0	4	0	9	0	0	0	0	0	13	167	0	0	0	314	11	518		1	0	0	0
Peak Hour	0	2	0	2	0	0	0	0	0	4	99	0	0	0	199	6	312		0	0	0	0

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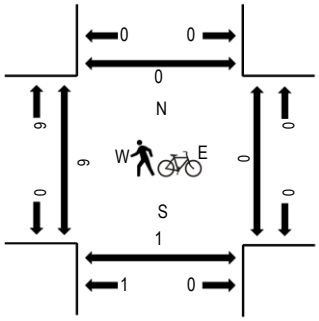
Location: 1 ROLLIE AVE & 1ST ST PM
Date and Start Time: Tuesday, November 13, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



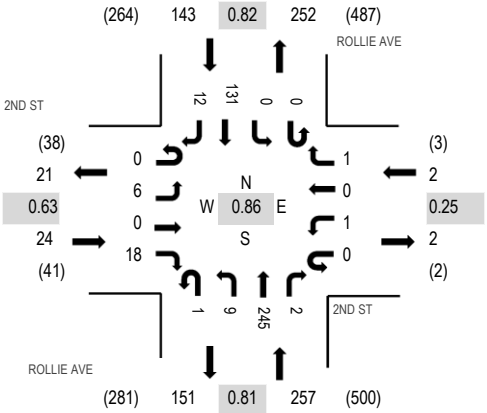
Traffic Counts

Interval Start Time	1ST ST Eastbound				1ST ST Westbound				ROLLIE AVE Northbound				ROLLIE AVE Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	31	81	29	0	7	77	9	0	54	30	4	0	5	14	11	352	1,374	2	0	0	0
4:15 PM	0	32	80	35	0	7	67	4	0	43	29	7	0	4	16	16	340	1,401	0	0	0	0
4:30 PM	0	22	91	33	0	9	77	6	0	56	19	9	0	4	12	14	352	1,434	0	0	2	0
4:45 PM	0	25	73	35	0	8	73	4	0	51	15	9	0	11	12	14	330	1,465	1	0	1	0
5:00 PM	0	21	107	27	0	8	93	3	0	42	25	7	0	9	20	17	379	1,435	2	0	0	0
5:15 PM	0	36	81	30	0	3	109	6	0	31	35	8	0	3	16	15	373		0	0	0	0
5:30 PM	0	40	92	42	0	4	83	7	0	49	29	8	0	5	17	7	383		0	0	0	0
5:45 PM	0	18	68	34	0	10	65	2	0	43	32	5	0	2	12	9	300		0	0	0	0
Count Total	0	225	673	265	0	56	644	41	0	369	214	57	0	43	119	103	2,809		5	0	3	0
Peak Hour	0	122	353	134	0	23	358	20	0	173	104	32	0	28	65	53	1,465		3	0	1	0

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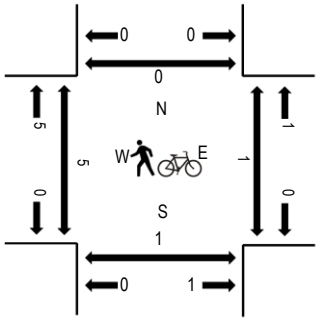
Location: 2 ROLLIE AVE & 2ND ST PM
Date and Start Time: Tuesday, November 13, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	2ND ST Eastbound				2ND ST Westbound				ROLLIE AVE Northbound				ROLLIE AVE Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	2	0	5	0	1	0	0	0	5	65	0	0	0	31	3	112	391	2	0	0	0
4:15 PM	0	1	0	4	0	0	0	0	0	4	62	0	0	0	29	0	100	386	1	0	0	2
4:30 PM	0	2	0	2	0	0	0	0	1	1	50	0	0	0	34	2	92	394	0	0	0	0
4:45 PM	0	1	0	5	0	0	0	0	0	1	45	0	0	0	34	1	87	426	0	1	1	0
5:00 PM	0	2	0	8	0	0	0	0	0	1	52	0	0	0	42	2	107	417	2	0	0	0
5:15 PM	0	0	0	2	0	0	0	0	0	5	71	0	0	0	29	1	108		0	0	0	0
5:30 PM	0	3	0	3	0	1	0	1	1	2	77	2	0	0	26	8	124		0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0	0	2	53	0	0	0	22	0	78		0	0	0	0
Count Total	0	11	0	30	0	2	0	1	2	21	475	2	0	0	247	17	808		5	1	1	2
Peak Hour	0	6	0	18	0	1	0	1	1	9	245	2	0	0	131	12	426		2	1	1	0

APPENDIX B

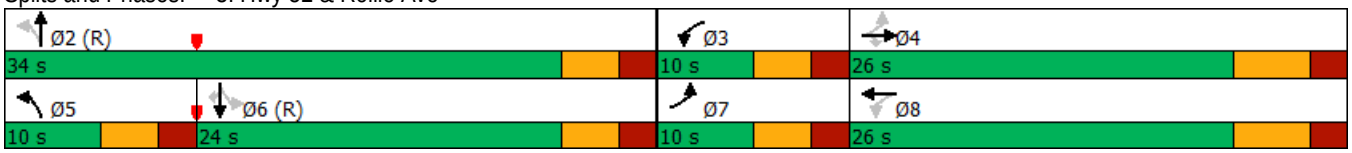
Existing Level of Service Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Future Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.961				0.850
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	1863	1583	1770	1848	0	1770	1790	0	0	1835	1794
Flt Permitted	0.454			0.418			0.571				0.924	
Satd. Flow (perm)	846	1863	1583	779	1848	0	1064	1790	0	0	1721	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		4			13				203
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			780			299			460	
Travel Time (s)		7.9			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	328	104	28	288	17	83	37	13	17	37	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	328	104	28	305	0	83	50	0	0	54	130
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0		10.0	23.0		23.0	23.0	23.0
Total Split (s)	10.0	26.0	26.0	10.0	26.0		10.0	34.0		24.0	24.0	24.0
Total Split (%)	14.3%	37.1%	37.1%	14.3%	37.1%		14.3%	48.6%		34.3%	34.3%	34.3%
Maximum Green (s)	5.0	20.0	20.0	5.0	20.0		5.0	29.0		19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	26.0	20.0	20.0	26.0	20.0		29.0	29.0			19.0	19.0
Actuated g/C Ratio	0.37	0.29	0.29	0.37	0.29		0.41	0.41			0.27	0.27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.20	0.62	0.18	0.08	0.58		0.17	0.07			0.12	0.21
Control Delay	13.0	27.6	1.0	11.8	26.2		13.6	10.2			20.1	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	13.0	27.6	1.0	11.8	26.2		13.6	10.2			20.1	1.7
LOS	B	C	A	B	C		B	B			C	A
Approach Delay		20.0			25.0			12.4			7.1	
Approach LOS		B			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 44.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	310	20	20	307	0	10
Future Vol, veh/h	310	20	20	307	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	337	22	22	334	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	337	0	-	337
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1222	-	0	705
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1222	-	-	705
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	705	-	1222	-
HCM Lane V/C Ratio	0.015	-	0.018	-
HCM Control Delay (s)	10.2	-	8	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Future Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	0	4	108	0	0	216	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	336	336	220	337	339	108	223	0	0	108	0	0
Stage 1	220	220	-	116	116	-	-	-	-	-	-	-
Stage 2	116	116	-	221	223	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	618	585	820	617	582	946	1346	-	-	1483	-	-
Stage 1	782	721	-	889	800	-	-	-	-	-	-	-
Stage 2	889	800	-	781	719	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	617	583	820	614	580	946	1346	-	-	1483	-	-
Mov Cap-2 Maneuver	617	583	-	614	580	-	-	-	-	-	-	-
Stage 1	780	721	-	886	798	-	-	-	-	-	-	-
Stage 2	886	798	-	779	719	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	0	0.3	0
HCM LOS	B	A		

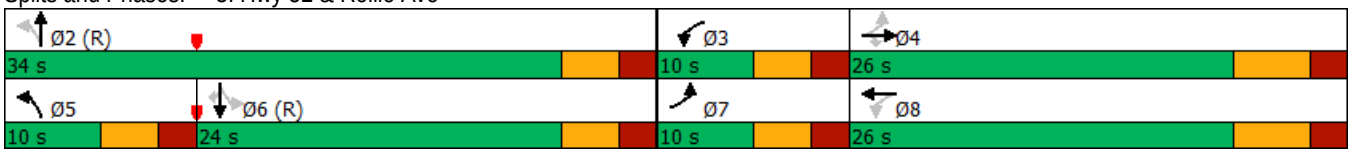
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	704	-	1483	-	-
HCM Lane V/C Ratio	0.003	-	-	0.006	-	-	-	-
HCM Control Delay (s)	7.7	0	-	10.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Future Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.965				0.850
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	1863	1583	1770	1848	0	1770	1798	0	0	1835	1794
Flt Permitted	0.292			0.332			0.548				0.890	
Satd. Flow (perm)	544	1863	1583	618	1848	0	1021	1798	0	0	1658	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		4			27				203
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			780			299			460	
Travel Time (s)		7.9			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	384	146	25	389	22	188	113	35	30	71	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	384	146	25	411	0	188	148	0	0	101	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	10.0	24.0	24.0	10.0	24.0		10.0	23.0		23.0	23.0	23.0
Total Split (s)	10.0	26.0	26.0	10.0	26.0		10.0	34.0		24.0	24.0	24.0
Total Split (%)	14.3%	37.1%	37.1%	14.3%	37.1%		14.3%	48.6%		34.3%	34.3%	34.3%
Maximum Green (s)	5.0	20.0	20.0	5.0	20.0		5.0	29.0		19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	26.0	20.0	20.0	26.0	20.0		29.0	29.0			19.0	19.0
Actuated g/C Ratio	0.37	0.29	0.29	0.37	0.29		0.41	0.41			0.27	0.27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.46	0.72	0.25	0.08	0.78		0.39	0.19			0.22	0.09
Control Delay	17.9	31.9	2.9	11.9	34.9		16.4	11.4			21.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	17.9	31.9	2.9	11.9	34.9		16.4	11.4			21.5	0.3
LOS	B	C	A	B	C		B	B			C	A
Approach Delay		22.7			33.5			14.2			13.7	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑		↱
Traffic Vol, veh/h	393	20	20	401	0	10
Future Vol, veh/h	393	20	20	401	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	427	22	22	436	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	427	0	-	427
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1132	-	0	628
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1132	-	-	628
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	628	-	1132	-
HCM Lane V/C Ratio	0.017	-	0.019	-
HCM Control Delay (s)	10.8	-	8.2	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Future Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	20	1	0	1	10	266	2	0	142	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	437	437	149	446	442	267	155	0	0	268	0	0
Stage 1	149	149	-	287	287	-	-	-	-	-	-	-
Stage 2	288	288	-	159	155	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	530	513	898	523	510	772	1425	-	-	1296	-	-
Stage 1	854	774	-	720	674	-	-	-	-	-	-	-
Stage 2	720	674	-	843	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	526	509	898	508	506	772	1425	-	-	1296	-	-
Mov Cap-2 Maneuver	526	509	-	508	506	-	-	-	-	-	-	-
Stage 1	847	774	-	714	669	-	-	-	-	-	-	-
Stage 2	713	669	-	825	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	10.9	0.3	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1425	-	-	763	613	1296	-	-
HCM Lane V/C Ratio	0.007	-	-	0.034	0.004	-	-	-
HCM Control Delay (s)	7.5	0	-	9.9	10.9	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

APPENDIX C

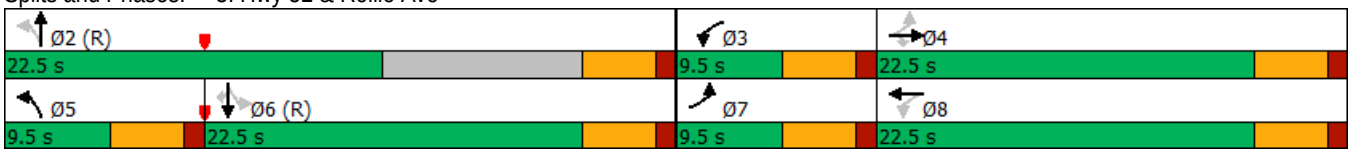
2019 and 2039 Background Traffic Level of Service Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Future Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.961				0.850
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	1863	1583	1770	1846	0	1770	1790	0	0	1833	1794
Flt Permitted	0.384			0.347			0.575				0.923	
Satd. Flow (perm)	715	1863	1583	646	1846	0	1071	1790	0	0	1719	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		5			14				179
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			780			299			460	
Travel Time (s)		7.9			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%
Adj. Flow (vph)	80	351	112	30	308	19	88	40	14	19	40	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	351	112	30	327	0	88	54	0	0	59	140
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (%)	14.8%	35.2%	35.2%	14.8%	35.2%		14.8%	35.2%		35.2%	35.2%	35.2%
Maximum Green (s)	5.0	18.0	18.0	5.0	18.0		5.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	23.0	18.0	18.0	23.0	18.0		27.5	27.5			18.0	18.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.28	0.28	0.36	0.28		0.43	0.43			0.28	0.28
v/c Ratio	0.24	0.67	0.20	0.09	0.63		0.17	0.07			0.12	0.22
Control Delay	13.0	27.9	1.8	11.5	26.0		12.0	8.9			18.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	13.0	27.9	1.8	11.5	26.0		12.0	8.9			18.0	2.9
LOS	B	C	A	B	C		B	A			B	A
Approach Delay		20.3			24.8			10.8			7.3	
Approach LOS		C			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 64			
Actuated Cycle Length: 64			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	310	20	20	307	0	10
Future Vol, veh/h	310	20	20	307	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	361	23	23	357	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	361	0	-	361
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1198	-	0	684
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1198	-	-	684
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	684	-	1198	-
HCM Lane V/C Ratio	0.017	-	0.019	-
HCM Control Delay (s)	10.4	-	8.1	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Future Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	0	5	115	0	0	231	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	360	360	235	361	363	115	238	0	0	115	0	0
Stage 1	235	235	-	125	125	-	-	-	-	-	-	-
Stage 2	125	125	-	236	238	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	596	567	804	595	565	937	1329	-	-	1474	-	-
Stage 1	768	710	-	879	792	-	-	-	-	-	-	-
Stage 2	879	792	-	767	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	594	565	804	591	563	937	1329	-	-	1474	-	-
Mov Cap-2 Maneuver	594	565	-	591	563	-	-	-	-	-	-	-
Stage 1	765	710	-	875	789	-	-	-	-	-	-	-
Stage 2	875	789	-	765	708	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	0	0.3	0
HCM LOS	B	A		

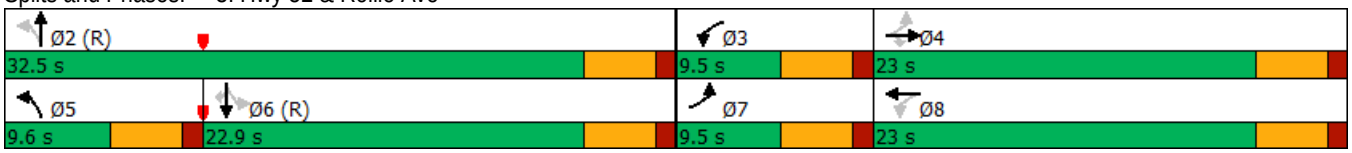
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1329	-	-	683	-	1474	-	-
HCM Lane V/C Ratio	0.004	-	-	0.007	-	-	-	-
HCM Control Delay (s)	7.7	0	-	10.3	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Future Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	100			150			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.965				0.850
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	1863	1583	1770	1848	0	1770	1798	0	0	1835	1794
Flt Permitted	0.220			0.260			0.552				0.887	
Satd. Flow (perm)	410	1863	1583	484	1848	0	1028	1798	0	0	1652	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176		4			30				176
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			780			299			460	
Travel Time (s)		8.0			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%	107%
Adj. Flow (vph)	142	411	156	27	416	23	201	121	37	33	76	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	411	156	27	439	0	201	158	0	0	109	62
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	23.0	23.0	9.5	23.0		9.6	32.5		22.9	22.9	22.9
Total Split (%)	14.6%	35.4%	35.4%	14.6%	35.4%		14.8%	50.0%		35.2%	35.2%	35.2%
Maximum Green (s)	5.0	18.5	18.5	5.0	18.5		5.1	28.0		18.4	18.4	18.4
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	23.5	18.5	18.5	23.5	18.5		28.0	28.0			18.4	18.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.28	0.28	0.36	0.28		0.43	0.43			0.28	0.28
v/c Ratio	0.56	0.78	0.27	0.10	0.83		0.40	0.20			0.23	0.10
Control Delay	21.8	33.7	4.1	11.8	37.8		14.8	10.1			19.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	21.8	33.7	4.1	11.8	37.8		14.8	10.1			19.6	0.3
LOS	C	C	A	B	D		B	B			B	A
Approach Delay		24.8			36.3			12.7			12.6	
Approach LOS		C			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	393	20	20	401	0	10
Future Vol, veh/h	393	20	20	401	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	457	23	23	466	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	457	0	-	457
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1104	-	0	604
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1104	-	-	604
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	604	-	1104	-
HCM Lane V/C Ratio	0.019	-	0.021	-
HCM Control Delay (s)	11.1	-	8.3	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Future Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	21	1	0	1	10	285	2	0	152	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	466	466	159	476	472	286	166	0	0	287	0	0
Stage 1	159	159	-	306	306	-	-	-	-	-	-	-
Stage 2	307	307	-	170	166	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	507	494	886	499	490	753	1412	-	-	1275	-	-
Stage 1	843	766	-	704	662	-	-	-	-	-	-	-
Stage 2	703	661	-	832	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	503	490	886	484	486	753	1412	-	-	1275	-	-
Mov Cap-2 Maneuver	503	490	-	484	486	-	-	-	-	-	-	-
Stage 1	836	766	-	698	657	-	-	-	-	-	-	-
Stage 2	696	656	-	812	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	11.1	0.3	0
HCM LOS	B	B		

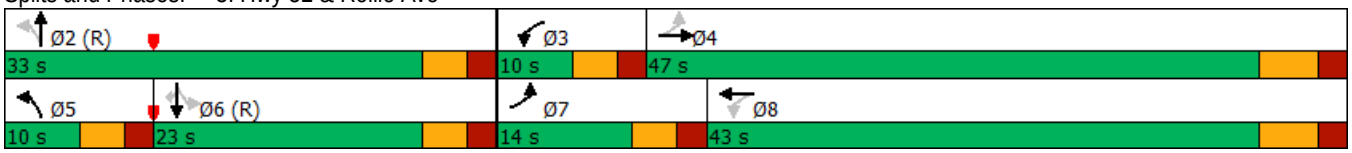
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	744	589	1275	-	-
HCM Lane V/C Ratio	0.007	-	-	0.038	0.004	-	-	-
HCM Control Delay (s)	7.6	0	-	10	11.1	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Future Volume (vph)	69	302	96	26	265	16	76	34	12	16	34	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	175		0	0		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	100			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.991			0.961				0.850
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3412	0	1770	3507	0	1770	1790	0	0	1833	1794
Flt Permitted	0.252			0.182			0.502				0.866	
Satd. Flow (perm)	469	3412	0	339	3507	0	935	1790	0	0	1613	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			8			20				234
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			780			299			460	
Travel Time (s)		7.9			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%
Adj. Flow (vph)	184	804	256	69	706	43	202	91	32	43	91	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	1060	0	69	749	0	202	123	0	0	134	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2			6		6
Minimum Split (s)	10.0	24.0		10.0	24.0		10.0	23.0		23.0	23.0	23.0
Total Split (s)	14.0	47.0		10.0	43.0		10.0	33.0		23.0	23.0	23.0
Total Split (%)	15.6%	52.2%		11.1%	47.8%		11.1%	36.7%		25.6%	25.6%	25.6%
Maximum Green (s)	9.0	41.0		5.0	37.0		5.0	28.0		18.0	18.0	18.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0		0	0	0
Act Effct Green (s)	51.0	41.0		43.0	37.0		28.0	28.0			18.0	18.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.46		0.48	0.41		0.31	0.31			0.20	0.20
v/c Ratio	0.47	0.67		0.29	0.52		0.60	0.22			0.42	0.59
Control Delay	13.1	20.5		12.1	21.2		33.5	20.3			36.0	14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	13.1	20.5		12.1	21.2		33.5	20.3			36.0	14.4
LOS	B	C		B	C		C	C			D	B
Approach Delay		19.4			20.4			28.5			20.8	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 20.9		Intersection LOS: C	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑↑		↱
Traffic Vol, veh/h	310	20	20	307	0	10
Future Vol, veh/h	310	20	20	307	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	826	53	53	818	0	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	879	0	-	826
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.219	-	-	3.319
Pot Cap-1 Maneuver	-	-	767	-	0	371
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	767	-	-	371
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	371	-	-	767	-
HCM Lane V/C Ratio	0.072	-	-	0.069	-
HCM Control Delay (s)	15.5	-	-	10	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Future Vol, veh/h	2	0	2	0	0	0	4	99	0	0	199	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	0	0	0	11	264	0	0	530	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	824	824	538	827	832	264	546	0	0	264	0	0
Stage 1	538	538	-	286	286	-	-	-	-	-	-	-
Stage 2	286	286	-	541	546	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	292	308	543	291	305	775	1023	-	-	1300	-	-
Stage 1	527	522	-	721	675	-	-	-	-	-	-	-
Stage 2	721	675	-	525	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	304	543	285	301	775	1023	-	-	1300	-	-
Mov Cap-2 Maneuver	289	304	-	285	301	-	-	-	-	-	-	-
Stage 1	520	522	-	712	666	-	-	-	-	-	-	-
Stage 2	712	666	-	520	518	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	0	0.3	0
HCM LOS	B	A		

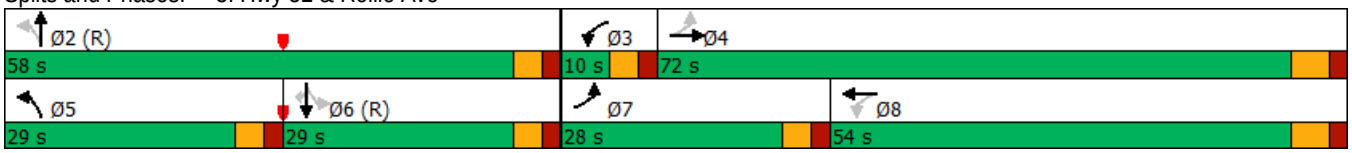
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1023	-	-	377	-	1300	-	-
HCM Lane V/C Ratio	0.01	-	-	0.028	-	-	-	-
HCM Control Delay (s)	8.6	0	-	14.8	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Future Volume (vph)	122	353	134	23	358	20	173	104	32	28	65	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	175		0	0		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	100			150			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.992			0.965				0.850
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3394	0	1770	3511	0	1770	1798	0	0	1835	1794
Flt Permitted	0.084			0.119			0.218				0.767	
Satd. Flow (perm)	156	3394	0	222	3511	0	406	1798	0	0	1429	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			4			13				140
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		350			780			299			460	
Travel Time (s)		8.0			17.7			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%	245%
Adj. Flow (vph)	325	940	357	61	953	53	461	277	85	75	173	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	325	1297	0	61	1006	0	461	362	0	0	248	141
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2			6		6
Minimum Split (s)	10.0	24.0		10.0	24.0		10.0	23.0		23.0	23.0	23.0
Total Split (s)	28.0	72.0		10.0	54.0		29.0	58.0		29.0	29.0	29.0
Total Split (%)	20.0%	51.4%		7.1%	38.6%		20.7%	41.4%		20.7%	20.7%	20.7%
Maximum Green (s)	23.0	66.0		5.0	48.0		24.0	53.0		24.0	24.0	24.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0		0	0	0
Act Effct Green (s)	77.0	66.0		54.0	48.0		53.0	53.0			24.0	24.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.55	0.47		0.39	0.34		0.38	0.38			0.17	0.17
v/c Ratio	0.93	0.80		0.44	0.83		1.19	0.53			1.02	0.33
Control Delay	71.8	34.5		27.5	49.5		141.9	35.8			118.3	10.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	71.8	34.5		27.5	49.5		141.9	35.8			118.3	10.1
LOS	E	C		C	D		F	D			F	B
Approach Delay		42.0			48.2			95.2			79.1	
Approach LOS		D			D			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 58.6		Intersection LOS: E	
Intersection Capacity Utilization 95.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	393	20	20	401	0	10
Future Vol, veh/h	393	20	20	401	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1047	53	53	1068	0	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1100	0	-	1047
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.219	-	-	3.319
Pot Cap-1 Maneuver	-	-	632	-	0	276
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	632	-	-	276
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	276	-	-	632	-
HCM Lane V/C Ratio	0.096	-	-	0.084	-
HCM Control Delay (s)	19.4	-	-	11.2	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Future Vol, veh/h	6	0	18	1	0	1	9	245	2	0	131	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	48	3	0	3	24	652	5	0	349	32

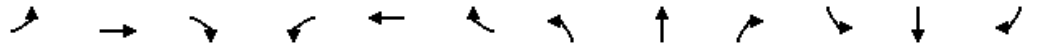
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1069	1070	365	1092	1084	655	381	0	0	657	0	0
Stage 1	365	365	-	703	703	-	-	-	-	-	-	-
Stage 2	704	705	-	389	381	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	199	221	680	192	217	466	1177	-	-	931	-	-
Stage 1	654	623	-	428	440	-	-	-	-	-	-	-
Stage 2	428	439	-	635	613	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	193	214	680	174	210	466	1177	-	-	931	-	-
Mov Cap-2 Maneuver	193	214	-	174	210	-	-	-	-	-	-	-
Stage 1	633	623	-	414	426	-	-	-	-	-	-	-
Stage 2	412	425	-	590	613	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	19.5	0.3	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1177	-	-	417	253	931	-	-
HCM Lane V/C Ratio	0.02	-	-	0.153	0.021	-	-	-
HCM Control Delay (s)	8.1	0	-	15.2	19.5	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

APPENDIX D

2019 and 2039 Total Traffic Level of Service Worksheets

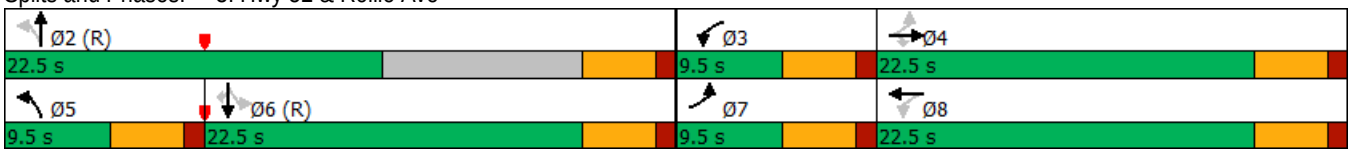


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	374	103	32	332	17	81	36	18	47	36	128
Future Volume (vph)	74	374	103	32	332	17	81	36	18	47	36	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993			0.949				0.850
Flt Protected	0.950			0.950			0.950				0.972	
Satd. Flow (prot)	1770	1863	1583	1770	1850	0	1770	1768	0	0	1811	1794
Flt Permitted	0.305			0.263			0.559				0.832	
Satd. Flow (perm)	568	1863	1583	490	1850	0	1041	1768	0	0	1550	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		4			20				179
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			341			299			460	
Travel Time (s)		7.9			7.8			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	407	112	35	361	18	88	39	20	51	39	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	407	112	35	379	0	88	59	0	0	90	139
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (%)	14.8%	35.2%	35.2%	14.8%	35.2%		14.8%	35.2%		35.2%	35.2%	35.2%
Maximum Green (s)	5.0	18.0	18.0	5.0	18.0		5.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	23.0	18.0	18.0	23.0	18.0		27.5	27.5			18.0	18.0
Actuated g/C Ratio	0.36	0.28	0.28	0.36	0.28		0.43	0.43			0.28	0.28

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.27	0.78	0.20	0.13	0.72		0.17	0.08			0.21	0.22
Control Delay	13.6	33.8	1.8	11.9	30.4		12.0	8.3			19.2	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	13.6	33.8	1.8	11.9	30.4		12.0	8.3			19.2	2.8
LOS	B	C	A	B	C		B	A			B	A
Approach Delay		25.1			28.8			10.5			9.2	
Approach LOS		C			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 64			
Actuated Cycle Length: 64			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Pretimed			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑		↱
Traffic Vol, veh/h	362	21	21	360	0	11
Future Vol, veh/h	362	21	21	360	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	393	23	23	391	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	393	0	-	393
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1166	-	0	656
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1166	-	-	656
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	656	-	1166	-
HCM Lane V/C Ratio	0.018	-	0.02	-
HCM Control Delay (s)	10.6	-	8.1	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	383	328	32	0	52
Future Vol, veh/h	56	383	328	32	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	100	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	416	357	35	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	357	0	-	0	-	357
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.13	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.219	-	-	-	-	3.319
Pot Cap-1 Maneuver	1200	-	-	0	0	686
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1200	-	-	-	-	686
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1200	-	-	686
HCM Lane V/C Ratio	0.051	-	-	0.082
HCM Control Delay (s)	8.2	-	-	10.7
HCM Lane LOS	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑	↱		↱
Traffic Vol, veh/h	0	439	380	0	0	0
Future Vol, veh/h	0	439	380	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	477	413	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	413
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	-	-	0	638
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	638
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	2	30	0	4	4	106	0	5	213	6
Future Vol, veh/h	2	0	2	30	0	4	4	106	0	5	213	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	33	0	4	4	115	0	5	232	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	371	369	236	370	372	115	239	0	0	115	0	0
Stage 1	246	246	-	123	123	-	-	-	-	-	-	-
Stage 2	125	123	-	247	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	586	560	803	587	558	937	1328	-	-	1474	-	-
Stage 1	758	703	-	881	794	-	-	-	-	-	-	-
Stage 2	879	794	-	757	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	580	556	803	582	554	937	1328	-	-	1474	-	-
Mov Cap-2 Maneuver	580	556	-	582	554	-	-	-	-	-	-	-
Stage 1	756	700	-	878	792	-	-	-	-	-	-	-
Stage 2	872	792	-	752	698	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11.3	0.3	0.2
HCM LOS	B	B		

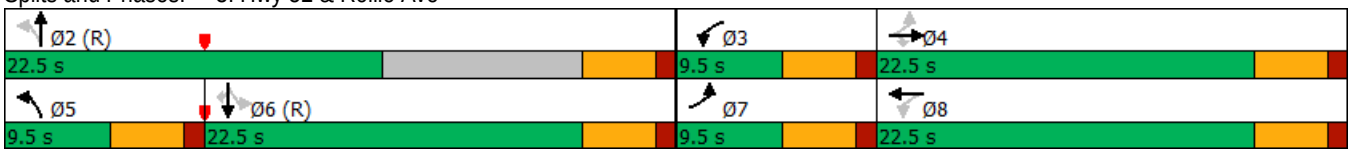
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1328	-	-	674	609	1474	-	-
HCM Lane V/C Ratio	0.003	-	-	0.006	0.061	0.004	-	-
HCM Control Delay (s)	7.7	0	-	10.4	11.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	471	143	34	477	22	185	111	44	94	70	63
Future Volume (vph)	143	471	143	34	477	22	185	111	44	94	70	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	0		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993			0.957				0.850
Flt Protected	0.950			0.950			0.950				0.972	
Satd. Flow (prot)	1770	1863	1583	1770	1850	0	1770	1783	0	0	1811	1794
Flt Permitted	0.222			0.222			0.500				0.740	
Satd. Flow (perm)	414	1863	1583	414	1850	0	931	1783	0	0	1378	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		4			39				179
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			341			299			460	
Travel Time (s)		7.9			7.8			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	512	155	37	518	24	201	121	48	102	76	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	512	155	37	542	0	201	169	0	0	178	68
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (%)	14.8%	35.2%	35.2%	14.8%	35.2%		14.8%	35.2%		35.2%	35.2%	35.2%
Maximum Green (s)	5.0	18.0	18.0	5.0	18.0		5.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0	7.0		7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	23.0	18.0	18.0	23.0	18.0		27.5	27.5			18.0	18.0
Actuated g/C Ratio	0.36	0.28	0.28	0.36	0.28		0.43	0.43			0.28	0.28

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.98	0.27	0.15	1.04		0.43	0.21			0.46	0.11
Control Delay	24.3	60.9	3.9	12.2	75.4		15.2	9.6			23.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	24.3	60.9	3.9	12.2	75.4		15.2	9.6			23.7	0.3
LOS	C	E	A	B	E		B	A			C	A
Approach Delay		43.2			71.4			12.7			17.2	
Approach LOS		D			E			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 64			
Actuated Cycle Length: 64			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑		↱
Traffic Vol, veh/h	485	21	21	494	0	11
Future Vol, veh/h	485	21	21	494	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	527	23	23	537	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	527	0	-	527
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	0	1040	-	0	551
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1040	-	-	551
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	551	-	1040	-
HCM Lane V/C Ratio	0.022	-	0.022	-
HCM Control Delay (s)	11.7	-	8.5	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	506	444	50	0	72
Future Vol, veh/h	103	506	444	50	0	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	100	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	550	483	54	0	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	483	0	-	0	-	483
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.13	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.219	-	-	-	-	3.319
Pot Cap-1 Maneuver	1078	-	-	0	0	583
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1078	-	-	-	-	583
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1078	-	-	583
HCM Lane V/C Ratio	0.104	-	-	0.134
HCM Control Delay (s)	8.7	-	-	12.1
HCM Lane LOS	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑	↱		↱
Traffic Vol, veh/h	0	600	500	16	0	33
Future Vol, veh/h	0	600	500	16	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	652	543	17	0	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	543
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	-	-	0	539
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	539
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	539
HCM Lane V/C Ratio	-	-	-	0.067
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	19	70	0	10	10	262	12	10	140	13
Future Vol, veh/h	6	0	19	70	0	10	10	262	12	10	140	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	21	76	0	11	11	285	13	11	152	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	500	501	159	506	502	292	166	0	0	298	0	0
Stage 1	181	181	-	314	314	-	-	-	-	-	-	-
Stage 2	319	320	-	192	188	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	481	472	886	477	471	747	1412	-	-	1263	-	-
Stage 1	821	750	-	697	656	-	-	-	-	-	-	-
Stage 2	693	652	-	810	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	467	463	886	459	462	747	1412	-	-	1263	-	-
Mov Cap-2 Maneuver	467	463	-	459	462	-	-	-	-	-	-	-
Stage 1	814	743	-	691	650	-	-	-	-	-	-	-
Stage 2	677	646	-	783	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	14.1	0.3	0.5
HCM LOS	B	B		

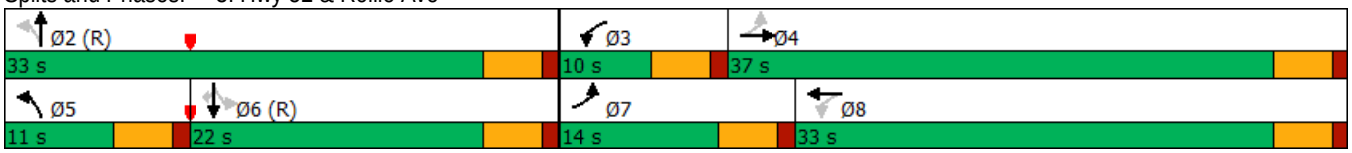
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	729	482	1263	-	-
HCM Lane V/C Ratio	0.008	-	-	0.037	0.18	0.009	-	-
HCM Control Delay (s)	7.6	0	-	10.1	14.1	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	833	235	68	697	39	186	83	39	69	83	294
Future Volume (vph)	169	833	235	68	697	39	186	83	39	69	83	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	100		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			150			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.992			0.952				0.850
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3422	0	1770	3511	0	1770	1773	0	0	1822	1794
Flt Permitted	0.186			0.140			0.466				0.801	
Satd. Flow (perm)	346	3422	0	261	3511	0	868	1773	0	0	1492	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			8			33				245
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			341			299			460	
Travel Time (s)		7.9			7.8			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	184	905	255	74	758	42	202	90	42	75	90	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	1160	0	74	800	0	202	132	0	0	165	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2			6		6
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	14.0	37.0		10.0	33.0		11.0	33.0		22.0	22.0	22.0
Total Split (%)	17.5%	46.3%		12.5%	41.3%		13.8%	41.3%		27.5%	27.5%	27.5%
Maximum Green (s)	9.5	32.5		5.5	28.5		6.5	28.5		17.5	17.5	17.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0		0	0	0
Act Effct Green (s)	42.0	32.5		34.0	28.5		28.5	28.5			17.5	17.5
Actuated g/C Ratio	0.52	0.41		0.42	0.36		0.36	0.36			0.22	0.22

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.53	0.82		0.35	0.64		0.53	0.20			0.51	0.55
Control Delay	15.6	25.9		14.6	24.0		24.8	14.3			33.8	11.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	15.6	25.9		14.6	24.0		24.8	14.3			33.8	11.5
LOS	B	C		B	C		C	B			C	B
Approach Delay		24.5			23.2			20.6			19.1	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 22.8		Intersection LOS: C	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑		↱
Traffic Vol, veh/h	836	49	49	784	0	25
Future Vol, veh/h	836	49	49	784	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	909	53	53	852	0	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	909	0	-	455
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	745	-	0	552
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	745	-	-	552
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	552	-	745	-
HCM Lane V/C Ratio	0.049	-	0.071	-
HCM Control Delay (s)	11.9	-	10.2	-
HCM Lane LOS	B	-	B	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	885	752	32	0	52
Future Vol, veh/h	56	885	752	32	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	100	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	962	817	35	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	817	0	-	0	-	409
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	3.32
Pot Cap-1 Maneuver	807	-	-	0	0	592
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	807	-	-	-	-	592
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	807	-	-	592
HCM Lane V/C Ratio	0.075	-	-	0.095
HCM Control Delay (s)	9.8	-	-	11.7
HCM Lane LOS	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑	↱		↱
Traffic Vol, veh/h	0	941	804	0	0	0
Future Vol, veh/h	0	941	804	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1023	874	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	874
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	-	-	0	348
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	348
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	30	0	4	10	243	24	5	488	15
Future Vol, veh/h	5	0	5	30	0	4	10	243	24	5	488	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	33	0	4	11	264	26	5	530	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	849	860	538	850	855	277	546	0	0	290	0	0
Stage 1	548	548	-	299	299	-	-	-	-	-	-	-
Stage 2	301	312	-	551	556	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	281	294	543	280	296	762	1023	-	-	1272	-	-
Stage 1	521	517	-	710	666	-	-	-	-	-	-	-
Stage 2	708	658	-	519	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	275	288	543	273	290	762	1023	-	-	1272	-	-
Mov Cap-2 Maneuver	275	288	-	273	290	-	-	-	-	-	-	-
Stage 1	514	514	-	701	657	-	-	-	-	-	-	-
Stage 2	695	649	-	511	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	18.9	0.3	0.1
HCM LOS	C	C		

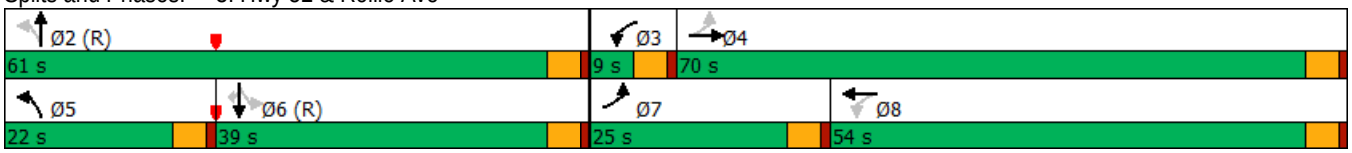
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1023	-	-	365	295	1272	-	-
HCM Lane V/C Ratio	0.011	-	-	0.03	0.125	0.004	-	-
HCM Control Delay (s)	8.6	0	-	15.2	18.9	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	958	328	65	971	49	424	255	83	133	159	136
Future Volume (vph)	311	958	328	65	971	49	424	255	83	133	159	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	16
Storage Length (ft)	200		0	100		0	100		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			150			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.993			0.963				0.850
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3405	0	1770	3514	0	1770	1794	0	0	1822	1794
Flt Permitted	0.074			0.081			0.238				0.684	
Satd. Flow (perm)	138	3405	0	151	3514	0	443	1794	0	0	1274	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			4			14				117
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			341			299			460	
Travel Time (s)		7.9			7.8			6.8			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	338	1041	357	71	1055	53	461	277	90	145	173	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	1398	0	71	1108	0	461	367	0	0	318	148
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2			6		6
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	22.5
Total Split (s)	25.0	70.0		9.0	54.0		22.0	61.0		39.0	39.0	39.0
Total Split (%)	17.9%	50.0%		6.4%	38.6%		15.7%	43.6%		27.9%	27.9%	27.9%
Maximum Green (s)	20.5	65.5		4.5	49.5		17.5	56.5		34.5	34.5	34.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0		0	0	0
Act Effct Green (s)	74.5	65.5		54.0	49.5		56.5	56.5			34.5	34.5
Actuated g/C Ratio	0.53	0.47		0.39	0.35		0.40	0.40			0.25	0.25

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.08	0.86		0.65	0.89		1.34	0.50			1.02	0.28
Control Delay	114.8	39.0		47.7	52.6		200.8	32.9			106.6	12.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	114.8	39.0		47.7	52.6		200.8	32.9			106.6	12.8
LOS	F	D		D	D		F	C			F	B
Approach Delay		53.8			52.3			126.4			76.8	
Approach LOS		D			D			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 140			
Control Type: Pretimed			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 70.2		Intersection LOS: E	
Intersection Capacity Utilization 99.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 52 & Rollie Ave



Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑		↱
Traffic Vol, veh/h	1022	49	49	1046	0	25
Future Vol, veh/h	1022	49	49	1046	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1111	53	53	1137	0	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	1111	0	-	556
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	0	624	-	0	475
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	624	-	-	475
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	475	-	624	-
HCM Lane V/C Ratio	0.057	-	0.085	-
HCM Control Delay (s)	13	-	11.3	-
HCM Lane LOS	B	-	B	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	1071	996	50	0	72
Future Vol, veh/h	103	1071	996	50	0	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	100	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	1164	1083	54	0	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1083	0	-	0	-	542
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	-	-	3.32
Pot Cap-1 Maneuver	640	-	-	0	0	485
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	640	-	-	-	-	485
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	640	-	-	485
HCM Lane V/C Ratio	0.175	-	-	0.161
HCM Control Delay (s)	11.8	-	-	13.8
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	0.6

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑	↱		↱
Traffic Vol, veh/h	0	1174	1052	16	0	33
Future Vol, veh/h	0	1174	1052	16	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1276	1143	17	0	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1143
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	-	-	0	243
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	243
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	243
HCM Lane V/C Ratio	-	-	-	0.148
HCM Control Delay (s)	-	-	-	22.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	0	43	72	0	12	22	600	49	10	321	29
Future Vol, veh/h	15	0	43	72	0	12	22	600	49	10	321	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	47	78	0	13	24	652	53	11	349	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1120	1140	365	1138	1130	679	381	0	0	705	0	0
Stage 1	387	387	-	727	727	-	-	-	-	-	-	-
Stage 2	733	753	-	411	403	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	184	201	680	179	204	452	1177	-	-	893	-	-
Stage 1	637	610	-	415	429	-	-	-	-	-	-	-
Stage 2	412	417	-	618	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	172	191	680	160	194	452	1177	-	-	893	-	-
Mov Cap-2 Maneuver	172	191	-	160	194	-	-	-	-	-	-	-
Stage 1	615	600	-	401	414	-	-	-	-	-	-	-
Stage 2	387	403	-	566	590	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	45.6	0.3	0.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1177	-	-	386	176	893	-	-
HCM Lane V/C Ratio	0.02	-	-	0.163	0.519	0.012	-	-
HCM Control Delay (s)	8.1	0	-	16.1	45.6	9.1	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	2.6	0	-	-

APPENDIX B

INSTITUTE OF TRANSPORTATION ENGINEERS
COMMON TRIP GENERATION RATES (PM Peak Hour)

(Trip Generation Manual, 10th Edition)

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location: General Urban/ Suburban	Setting/Location: Dense Multi-Use Urban
PORT AND TERMINAL					
30	Intermodal Truck Terminal	1,000 SF GFA	1.72		
90	Park-and-Ride Lot with Bus Service	Parking Spaces	0.43		
INDUSTRIAL					
110	General Light Industrial	1,000 SF GFA	0.63		
130	Industrial Park	1,000 SF GFA	0.40		
140	Manufacturing	1,000 SF GFA	0.67		
150	Warehousing	1,000 SF GFA	0.19		
151	Mini-Warehouse	1,000 SF GFA	0.17		
154	High-Cube Transload & Short-Term Storage Warehouse	1,000 SF GFA	0.10		
155	High-Cube Fulfillment Center Warehouse	1,000 SF GFA	1.37		
156	High-Cube Parcel Hub Warehouse	1,000 SF GFA	0.64		
157	High-Cube Cold Storage Warehouse	1,000 SF GFA	0.12		
160	Data Center	1,000 SF GFA	0.09		
170	Utilities	1,000 SF GFA	2.27		
180	Specialty Trade Contractor	1,000 SF GFA	1.97		
RESIDENTIAL					
210	Single-Family Detached Housing	Dwelling Units	0.99		
220	Multifamily Housing (Low-Rise)	Dwelling Units	0.56		
221	Multifamily Housing (Mid-Rise)	Dwelling Units	➔	0.44	0.18
222	Multifamily Housing (High-Rise)	Dwelling Units	➔	0.36	0.19
231	Mid-Rise Residential with 1st-Floor Commercial	Dwelling Units	0.36		
232	High-Rise Residential with 1st-Floor Commercial	Dwelling Units	0.21		
240	Mobile Home Park	Dwelling Units	0.46		
251	Senior Adult Housing - Detached	Dwelling Units	0.30		
252	Senior Adult Housing - Attached	Dwelling Units	0.26		
253	Congregate Care Facility	Dwelling Units	0.18		
254	Assisted Living	1,000 SF GFA	0.48		
255	Continuing Care Retirement Community	Units	0.16		
260	Recreation Homes	Dwelling Units	0.28		
265	Timeshare	Dwelling Units	0.63		
270	Residential Planned Unit Development	Dwelling Units	0.69		
LODGING					
310	Hotel	Rooms	0.60		
311	All Suites Hotel	Rooms	➔	0.36	0.17
312	Business Hotel	Rooms	0.32		
320	Motel	Rooms	0.38		
330	Resort Hotel	Rooms	0.41		
RECREATIONAL					
411	Public Park	Acres	0.11		
416	Campground / Recreation Vehicle Park	Acres	0.98		
420	Marina	Berths	0.21		
430	Golf Course	Acres	0.28		
431	Miniature Golf Course	Holes	0.33		
432	Golf Driving Range	Tees/Driving Positions	1.25		
433	Batting Cages	Cages	2.22		
434	Rock Climbing Gym	1,000 SF GFA	1.64		
435	Multi-Purpose Recreational Facility	1,000 SF GFA	3.58		
436	Trampoline Park	1,000 SF GFA	1.50		
437	Bowling Alley	1,000 SF GFA	1.16		
440	Adult Cabaret	1,000 SF GFA	2.93		
444	Movie Theater	1,000 SF GFA	6.17		
445	Multiplex Movie Theater	1,000 SF GFA	4.91		
452	Horse Racetrack	Seats	0.06		
454	Dog Racetrack	Attendees	0.15		
460	Arena	1,000 SF GFA	0.47		
462	Professional Baseball Stadium	Attendees	0.15		
465	Ice Skating Rink	1,000 SF GFA	1.33		
466	Snow Ski Area	Slopes	26.00		
473	Casino/Video Lottery Establishment	1,000 SF GFA	13.49		
480	Amusement Park	Acres	3.95		
482	Water Slide Park	Parking Spaces	0.28		
488	Soccer Complex	Fields	16.43		
490	Tennis Courts	Courts	4.21		
491	Racquet/Tennis Club	Courts	3.82		
492	Health/Fitness Club	1,000 SF GFA	3.45		
493	Athletic Club	1,000 SF GFA	6.29		
495	Recreational Community Center	1,000 SF GFA	2.31		
INSTITUTIONAL					
520	Elementary School	1,000 SF GFA	1.37		
522	Middle School / Junior High School	1,000 SF GFA	1.19		
530	High School	1,000 SF GFA	0.97		
534	Private School (K-8)	Students	0.26		
536	Private School (K-12)	Students	0.17		
537	Charter Elemantary School	Students	0.14		
538	School District Office	1,000 SF GFA	2.04		
540	Junior / Community College	1,000 SF GFA	1.86		
550	University/College	1,000 SF GFA	1.17		
560	Church	1,000 SF GFA	0.49		
561	Synagogue	1,000 SF GFA	2.92		
562	Mosque	1,000 SF GFA	4.22		
565	Daycare Center	1,000 SF GFA	11.12		
566	Cemetery	Acres	0.46		
571	Prison	1,000 SF GFA	2.91		
575	Fire and Rescue Station	1,000 SF GFA	0.48		
580	Museum	1,000 SF GFA	0.18		
590	Library	1,000 SF GFA	8.16		

INSTITUTE OF TRANSPORTATION ENGINEERS
COMMON TRIP GENERATION RATES (PM Peak Hour)

(Trip Generation Manual, 10th Edition)

Code	Description	Unit of Measure	Trips Per Unit	Setting/Location: General Urban/ Suburban	Setting/Location: Dense Multi-Use Urban
MEDICAL					
610	Hospital	1,000 SF GFA	0.97		
620	Nursing Home	1,000 SF GFA	0.59		
630	Clinic	1,000 SF GFA	➔	3.28	5.18
640	Animal Hospital / Veterinary Clinic	1,000 SF GFA	3.53		
650	Free-Standing Emergency Room	1,000 SF GFA	1.52		
OFFICE					
710	General Office Building	1,000 SF GFA	➔	1.15	0.87
712	Small Office Building	1,000 SF GFA	2.45		
714	Corporate Headquarters Building	1,000 SF GFA	0.60		
715	Single Tenant Office Building	1,000 SF GFA	1.74*		
720	Medical-Dental Office Building	1,000 SF GFA	3.46		
730	Government Office Building	1,000 SF GFA	1.71		
731	State Motor Vehicles Department	1,000 SF GFA	5.20		
732	United States Post Office	1,000 SF GFA	11.21		
733	Government Office Complex	1,000 SF GFA	2.82		
750	Office Park	1,000 SF GFA	1.07		
760	Research and Development Center	1,000 SF GFA	0.49		
770	Business Park	1,000 SF GFA	0.42		
RETAIL					
810	Tractor Supply Store	1,000 SF GFA	1.40		
811	Construction Equipment Rental Store	1,000 SF GFA	0.99		
812	Building Materials and Lumber Store	1,000 SF GFA	2.06		
813	Free-Standing Discount Superstore	1,000 SF GFA	4.33		
814	Variety Store	1,000 SF GFA	6.84		
815	Free Standing Discount Store	1,000 SF GFA	4.83		
816	Hardware / Paint Store	1,000 SF GFA	2.68		
817	Nursery (Garden Center)	1,000 SF GFA	6.94		
818	Nursery (Wholesale)	1,000 SF GFA	5.18		
820	Shopping Center	1,000 SF GFA	3.81	3.81	4.92
823	Factory Outlet Center	1,000 SF GFA	2.29		
840	Automobile Sales (New)	1,000 SF GFA	2.43		
841	Automobile Sales (Used)	1,000 SF GFA	3.75		
842	Recreational Vehicle Sales	1,000 SF GFA	0.77		
843	Automobile Parts Sales	1,000 SF GFA	4.91		
848	Tire Store	1,000 SF GFA	3.98		
849	Tire Superstore	1,000 SF GFA	2.11		
850	Supermarket	1,000 SF GFA	9.24		
851	Convenience Market (Open 24 Hours)	1,000 SF GFA	49.11		
853	Convenience Market with Gasoline Pumps	1,000 SF GFA	49.29		
854	Discount Supermarket	1,000 SF GFA	8.38		
857	Discount Club	1,000 SF GFA	4.18		
860	Wholesale Market	1,000 SF GFA	1.76		
861	Sporting Goods Superstore	1,000 SF GFA	➔	2.02	1.65
862	Home Improvement Superstore	1,000 SF GFA	➔	2.33	3.35
863	Electronics Superstore	1,000 SF GFA	4.26		
864	Toy/Children's Superstore	1,000 SF GFA	5.00		
865	Baby Superstore	1,000 SF GFA	1.82		
866	Pet Supply Superstore	1,000 SF GFA	3.55		
867	Office Supply Superstore	1,000 SF GFA	2.77		
868	Book Superstore	1,000 SF GFA	15.83		
869	Discount Home Furnishing Superstore	1,000 SF GFA	1.57		
872	Bed and Linen Superstore	1,000 SF GFA	2.22		
875	Department Store	1,000 SF GFA	1.95		
876	Apparel Store	1,000 SF GFA	➔	4.12	1.12
879	Arts and Craft Store	1,000 SF GFA	6.21		
880	Pharmacy / Drugstore without Drive-Through Window	1,000 SF GFA	8.51		
881	Pharmacy / Drugstore with Drive-Through Window	1,000 SF GFA	10.29		
882	Marijuana Dispensary	1,000 SF GFA	21.83		
890	Furniture Store	1,000 SF GFA	0.52		
897	Medical Equipment Store	1,000 SF GFA	1.24		
899	Liquor Store	1,000 SF GFA	16.37		
SERVICES					
911	Walk-In Bank	1,000 SF GFA	12.13		
912	Drive-In Bank	1,000 SF GFA	20.45		
918	Hair Salon	1,000 SF GFA	1.45		
920	Copy, Print, and Express Ship Store	1,000 SF GFA	7.42		
925	Drinking Place	1,000 SF GFA	11.36		
926	Food Cart Pod	Food Carts	3.08		
930	Fast Casual Restaurant	1,000 SF GFA	14.13		
931	Quality Restaurant	1,000 SF GFA	7.80		
932	High-Turnover (Sit-Down) Restaurant	1,000 SF GFA	➔	9.77	9.80
933	Fast Food Restaurant without Drive-Through Window	1,000 SF GFA	28.34		
934	Fast Food Restaurant with Drive-Through Window	1,000 SF GFA	➔	32.67	78.74
935	Fast Food Restaurant with Drive-Through Window and No Indoor Seating	1,000 SF GFA	42.65		
936	Coffee/Donut Shop without Drive-Through Window	1,000 SF GFA	36.31		
937	Coffee/Donut Shop with Drive-Through Window	1,000 SF GFA	➔	43.38	83.19
938	Coffee/Donut Shop with Drive-Through Window and No Indoor Seating	1,000 SF GFA	83.33		
939	Bread / Donut / Bagel Shop without Drive-Through Window	1,000 SF GFA	28.00		
940	Bread / Donut / Bagel Shop with Drive-Through Window	1,000 SF GFA	19.02		
941	Quick Lubrication Vehicle Shop	1,000 SF GFA	8.70		
942	Automobile Care Center	1,000 SF GFA	3.11		
943	Automobile Parts and Service Center	1,000 SF GFA	2.26		
944	Gasoline / Service Station	1,000 SF GFA	109.27		
945	Gasoline / Service Station with Convenience Market	1,000 SF GFA	88.35		
947	Self Service Car Wash	Wash Stalls	5.54		
948	Automated Car Wash	1,000 SF GFA	14.20		
949	Car Wash and Detail Center	Wash Stalls	13.60		
950	Truck Stop	1,000 SF GFA	22.73		
960	Super Convenience Market/Gas Station	1,000 SF GFA	69.28		
970	Winery	1,000 SF GFA	7.31		

Note: All land uses in the 800 and 900 series are entitiled to a "pass-by" trip reduction of 60% if less than 50,000 ft^2 or a reduction of 40% if equal to or greater than 50,000ft^2.

***From 9th edition, no PM peak hour in 10th**

An area designated as **General Urban/Suburban** in the *Trip Generation Manual* is an area associated with almost homogeneous vehicle-centered access. Nearly all person trips that enter or exit a development site are by personal passenger or commercial vehicle.

The area can be fully developed (or nearly so) at low-medium density with a mix of residential and commercial uses. The commercial land uses are typically concentrated at intersections o spread along commercial corridors, often surrounded by low-density, almost entirely residential development. Most commercial buildings are located behind or surrounded by parking.

The mixing of land uses is only in terms of their proximity, not in terms of function. A retail land use may focus on serving a regional clientele or a services land use may target motorists or pass-by vehicle trips for its customers. Even if the land uses are complementary, a lack of pedestrian, bicycling, and transit facilities or services limit non-vehicle travel.

An area designated as **Dense Multi-Use Urban** in the *Trip Generation Manual* is a fully developed area (or nearly so), with diverse and complementary land uses, good pedestrian connectivity, and convenient and frequent transit. This area type can be a well-developed urban area outside a major metropolitan downtown or a moderate size urban area downtown.

The land use mix typically includes office, retail, residential, and often entertainment, hotel, and other commercial uses. The residential uses are typically multifamily or single-family on lots no larger than one-fourth acre. The commercial uses often have little or no setback from the sidewalk. Because the motor vehicle still represents the primary mode of travel to and from the area, there typically is on-street parking an often public off-street parking.

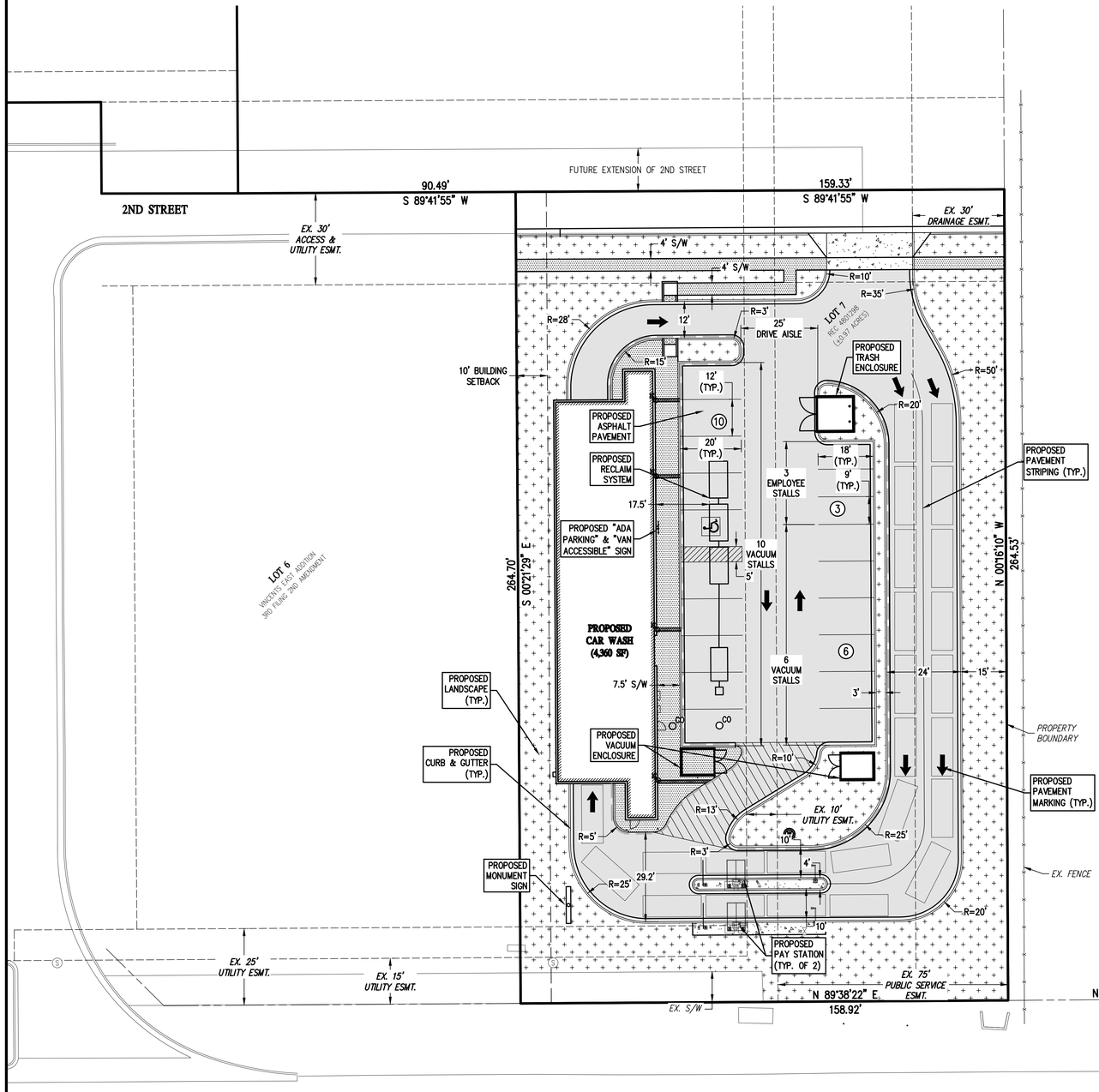
The complementary land uses provide the opportunity for short trips within the Dense Multi-Use Urban area, made conveniently by walking, biking, or transit. The area is served by significant transit (either rail or bus) that enables a high level of transit usage to and from area development.

APPENDIX C

SPECIAL USE PERMIT

CHAMPION XPRESS CAR WASH

LOCATED IN SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6th PRINCIPAL MERIDIAN
CITY OF FORT LUPTON, WELD COUNTY, STATE OF COLORADO



LEGEND:

	PROPERTY LINE	S	EXISTING SANITARY MH
	LOT LINE	D	EXISTING STORM MH
	EXISTING FEMA FLOODPLAIN		PROPOSED STORM INLET
	EXISTING EASEMENT		PROPOSED F.E.S.
	PROPOSED EASEMENT		PROPOSED RIP RAP
	EXISTING RIGHT-OF-WAY		EXISTING FIRE HYDRANT
	EXISTING MAJOR CONTOUR		PROPOSED FIRE HYDRANT
	EXISTING MINOR CONTOUR	W	PROPOSED WATER METER
	EXISTING CURB & GUTTER		PROPOSED LIGHT
	PROPOSED CURB & GUTTER	T	PROPOSED TRANSFORMER
	EXISTING BUILDING		PROPOSED ELECTRIC METER
	PROPOSED BUILDING		PROPOSED SIGN
	PROPOSED ASPHALT PAVEMENT		
	PROPOSED CONCRETE PAVEMENT		
	PROPOSED SIDEWALK PAVEMENT		
	PROPOSED LANDSCAPING		

SITE DATA

LOT SIZE	0.97 ± ACRES
PAVEMENT AREA*	±24,727 SF
LANDSCAPE AREA	±13,018 SF
BUILDING AREA	±4,360 SF
VACUUM PARKING	16 SPACES
EMPLOYEE PARKING	3 SPACES
ZONING	GENERAL COMMERCIAL
FEMA FIRM MAP	08123C2110E (ZONE X)

NOTES:

*1. PAVEMENT AREA DOES NOT INCLUDE PAVEMENT REQUIRED TO EXTEND TO 2ND STREET.

2. NO STRUCTURES ARE PERMITTED WITHIN THE OVERHEAD ELECTRICAL EASEMENT.

3. PARKING, ACCESS AND OTHER IMPROVEMENTS ARE PERMISSIBLE WITH ADDITIONAL PERMITTING AND COORDINATION WITH XCEL ENERGY.

N

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

BASELINE
Engineering · Planning · Surveying
102 N. RUBEY DRIVE, SUITE 210 · GOLDEN, COLORADO 80403
P: 3033403868 · F: 3033403869 · www.baselinecorp.com

DESIGNED BY KTM | DRAWN BY KDW | CHECKED BY SKRM

REVISION DESCRIPTION	PREPARED BY	DATE
SPECIAL USE PERMIT SUBMITAL #1	LTV	4/22/2022

CHAMPION XPRESS CAR WASH
CITY OF FORT LUPTON | WELD COUNTY
COOPER PLACE & 2ND STREET CAR WASH
LOT 7
SITE PLAN

PREPARED UNDER THE DIRECT SUPERVISION OF

PRELIMINARY NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF BASELINE CORPORATION

INITIAL SUBMITTAL	03.31.2022
DRAWING SIZE	24" X 36"
SURVEY FIRM	SURVEY DATE
BEC	03/07/2022
JOB NO.	493
DRAWING NAME	493_SDP Site.dwg
SHEET 2 OF 10	

C2.0

N:\PLANNING LLC\493 7B Development- Fort Lupton Site\Drawings\Planning Documents\SDP\493_SDP Site.dwg, 4/22/2022 11:06:15 AM, Lon Von

March 31, 2022

Tez Hawkins
7B Building & Development
13105 Dover Ave
Lubbock, TX 79424

Dear Mr. Hawkins:

United Power is the provider of electric service in the area to the proposed Tunnel Car Wash, located at 110 Copper Pl. There is electrical distribution in the area that may or may not need to be upgraded, depending on the requirements of the site, in order to provide capacity and safe reliable power to the area.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested.

We look forward to this opportunity to provide electric service. If you have any questions, please give me a call at 303-637-1387.

Sincerely,

Marisa Dale

Marisa Dale
Project Coordinator II

MDD:ggj

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 05/10/2022
Project name: Champion Xpress Car Wash LUP2022-0007
Project address: 120 Copper Pl., Fort Lupton, Co 80621
FLFPD Project # R2022-023
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **Champion Xpress Car Wash LUP2022-0007** located at **120 Copper Pl.**, Fort Lupton, CO 80621. The referral was reviewed for compliance with *2018 International Fire Code (IFC)* and the current National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, City Council of Fort Lupton, and Weld County Commissioners. The following specific and general requirements and conditions shall be met in order for the Fort Lupton Fire Protection District to issue permits.

Specific Requirements:

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permits.

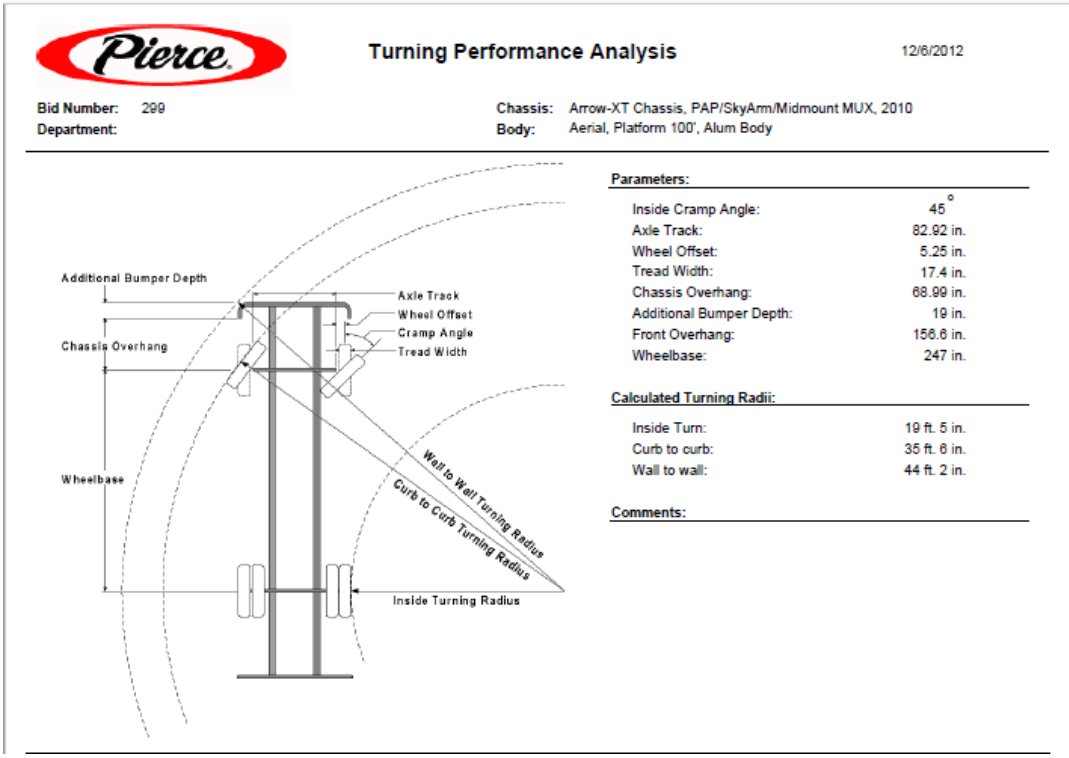
2. A complete code analysis is required to be done by a licensed architect or design professional prior to any permit being released by the fire department. This code analysis shall include the following applicable items:

    - Applicable codes
    - Project description
    - Occupancy classification ¬ Include justification and explain reason for this classification (ie. Hazardous processes, manufacturing, extracting, business office, etc.)
    - Type of construction
    - Is the building sprinklered or not
    - Allowable area increase calculations
    - Allowable area calculations for building
    - Allowable height and number of stories
    - Egress requirements
    - Occupant load
    - Minimum number of exits for occupant load
    - Panic or Fire Exit Hardware being used
    - Exit access (ie. travel distance)
    - Dead end corridor length (if applicable)

- Will there be any racks or high piled storage (e.g. storage over 12 ft. in height)? ¬ If yes, how tall and what will the commodities stored on them consist of?

Additional information:

- Show location of Hydrants
- Show turning radius meets or exceeds turning radius shown below for apparatus access



Turning Performance Analysis 12/6/2012

Bid Number: 299
Department:
Chassis: Arrow-XT Chassis, PAP/SkyArm/Midmount MUX, 2010
Body: Aerial, Platform 100', Alum Body

Parameters:

Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	5.25 in.
Tread Width:	17.4 in.
Chassis Overhang:	68.99 in.
Additional Bumper Depth:	19 in.
Front Overhang:	156.6 in.
Wheelbase:	247 in.

Calculated Turning Radii:

Inside Turn:	19 ft. 5 in.
Curb to curb:	35 ft. 6 in.
Wall to wall:	44 ft. 2 in.

Comments:

Complete a Plan Review Application.
Plan Review Application

Pay all applicable fees for the Review Package.
Fee schedule

Plan Review Package includes Civil Drawings, Engineering Drawings, Site Plan Drawings, and Interior Floor Plan Drawings. Additional drawings for all fire alarm and fire suppression systems must be submitted with the Application for Plan Review. All submitted drawings must meet all requirements listed in the 2012 International Fire Codes or the current addition of the NFPA Standards.

Plans and application shall be sent electronically to ttamlin@ftluptonfire.com

Plan review fees shall be mailed to:

Fort Lupton Fire Protection District
1121 Denver Ave.
Fort Lupton, CO 80621

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 if you have questions or need further assistance.

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, May 25, 2022 3:21 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Friday, May 6, 2022 9:52 AM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

External Message - Please be cautious when replying or opening links or attachments in this email

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a special use permit being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/664.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 27, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!



Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Michael McGoldrick (Atwell)

From: Roy Vestal

Date: June 2, 2022

Subject: Champion Xpress Car Wash LUP2022-0007
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Site Plan submittal. Be advised, review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Utilities**
   - **a. Water - Chapter 3**
     - i. Sheet C4.0 Utility Plan shows a 2" tap
       2" Com (20 SFE) **Plant investment fee = $160,000.00**
       CBT water shares = 7.0 = $420,000
     - ii. Annual consumptive water use is 1,592,108 gallons

   - **b. Sanitary Sewer - Chapter 4**
     - i. Sheet C4.0 Utility Plan shows a 2" water tap
       Com 2" (20 SFE) **Plant investment fee = $200,000.00**

2. **Site Plan**
   - a. The water line will require an easement dedication, 20' wide.
   - b. Add note:

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

3. **Drainage**
    a. Drainage letter as submitted is acceptable.

4. **Landscape / Grading** - *Chapter 2 Design Standards*
    a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
    b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts. West side of entry drive is an issue with the closest proposed tree.
    c. Add information related to irrigation connection and layout.

5. **Utilities**
    a. **Water - Chapter 3**
        i. Section 3.21.00 All service lines 3/4 inch through 2 inch shall be copper and shall be installed continuous without joints between the corporation stop at the water main and the meter or curb stop.
        ii. Please specify pipe materials on the drawings.
        iii. Backflow prevention assemblies (if required) shall be tested by a Certified Cross-Connection Control Technician upon installation and tested at least annually, thereafter.
        iv. Plumbing plans should identify back flow prevention devices and will require inspection by a certified backflow prevention technician and registration on the City's Aqua Flow web site. The backflow device will require annual inspections and entry to the City's Cross Connection Inspection Control system (in accordance with Section 13-85 of the City Municipal Code).

    b. **Sanitary Sewer - Chapter 4**
        i. Please specify pipe materials on the drawings.
        ii. Maintain 10-feet separation between water service and sanitary sewer service.
        iii. Confirmation of discharge components will be required. Approval of sanitary connection will be required by METRO

    c. **Roadway - Chapter 6**
        i. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The site triangle needs to be pulled back to the ultimate roadway section.

    d. **Traffic Control - Chapter 8**
        i. The Traffic Analysis as submitted is acceptable.

6. Final Construction Drawings should include City Standard Details as needed.
    a. A Public Works Permit will be required for connection of the water service and sanitary sewer service.

There may be additional concerns as this design develops.

May 24, 2022

City of Fort Lupton | Planning & Building
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: LUP2022-0007 – Champion Xpress Car Wash

To Whom it May Concern:

On behalf of United Power, Inc., thank you for inviting us to review and comment the Champion Xpress Car Wash. After review of the information, United Power has no concerns or objection to the proposed special use permit; contingent upon United Power's ability to maintain all existing rights, facilities/equipment, and existing easements. This request should not hinder our ability for future expansion, including all present and any future accommodations for electrical distribution.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,

Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

FROM: Maria Lancto
DATE: 05/06/22
PROJECT: Champion Xpress Car Wash
Project No. LUP2022-0007 & Plan No. SUP2022-0001

INTERNAL DISTRIBUTION:

Buildings/Grounds Manager	City Attorney	Police Chief
City Administrator	City Clerk	Public Works Director
Building Inspector	Recreation Manager	Golf Course Manager
OMI	GIS Specialist	Finance Director

OUTSIDE DISTRIBUTION:

Fort Lupton Fire Protection District	Weld County Public Works
CDOT	Weld County School District RE-8
Colorado DRMS	Weld County GIS
Colorado Parks and Wildlife	NCWCD
Division of Water Resources	Fulton Ditch Company
Army Corp of Engineers	Platteville Ditch Company
United Power	Western Midstream
Comcast	City of Brighton
CenturyLink	Town of Frederick
Xcel Energy	Town of Platteville
Postmaster	City of Dacono
Weld County Department of Planning	Town of Firestone
☑ Weld County Dept. of Public Health & Env.	Other:

If you have comments, please respond by: **05/27/22**

Comments may be sent via mail, faxed to 303.857.0351 or emailed to planningdept@fortluptonco.gov. A non-response to this referral may be considered a favorable response.

COMMENTS

No issues with this request

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 27, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Todd Hodges and Maria Lancto and Magaly Morales-Tejeda

Re: Champion Xpress Car Wash, Case # LUP2022-0007

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require Public Service Company approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a Public Service Company License Agreement to be executed with the property owner. PSCo is requesting that, prior to any final approval of the special use documentation, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement (via website www.xcelenergy.com/rightofway or email coloradorightofway@xcelenergy.com).

The property owner/developer/contractor must complete the application process for any new natural gas *service* via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

If additional easements need to be acquired by separate PSCo document, a Right-of-Way Agent will need to be contacted.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Sign Posting Affidavit
Champion Xpress Car Wash Special Use Permit
Project No. LUP2022-0007; Plan No. SUP2022-0001



Facing Highway 52

I, Derrick Merchant hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 31st day of May, 2022.

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Derrick Merchant, this 31st day of May, 2022. Witness my hand and seal.

My commission expires 06/02/2025.

Notary Public

(SEAL)

KORDELL RYAN DOSHIER
Notary Public, State of Texas
Comm. Expires 06-02-2025
Notary ID 133132527

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a special use permit referred to as the Champion Xpress Car Wash Special Use Permit located at 120 Copper Place in Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND.

LEGAL DESCRIPTION

LOT 7, AMENDED PLAT OF LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION IN THE CITY OF FORT LUPTON, COUNTY OF WELD, COLORADO.

Legal Notice No. FLP632
First Publication: May 19, 2022
Last Publication: May 19, 2022
Publisher: Fort Lupton Press

Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 24th day of May, 2022, a true and correct copy of the foregoing Notice of Public Hearings and Site Plan Map for the Champion Xpress Car Wash Special Use Permit was sent via U.S. Mail, postage pre-paid, to the following addresses:

VINCENT VILLAGE LLC
5300 DTC PWKY
STE 100
GREENWOOD VILLAGE, CO 80111

HOPE GRAYSON PROPERTIES LLC
15497 COUNTY ROAD 10
FORT LUPTON, CO 80621

CITY OFFICIAL

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
www.fortluptonco.gov

Phone: 303.857.6694
Fax: 303.857.0351

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a special use permit referred to as the Champion Xpress Car Wash Special Use Permit located at 120 Copper Place in Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: CHAMPION XPRESS CAR WASH

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

LOT 7, AMENDED PLAT OF LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION IN THE CITY OF FORT LUPTON, COUNTY OF WELD, COLORADO.

City Council Meeting
Date: July 5, 2022
Staff: Maria Lancto – Planner I

AM 2022-107
Consent Agenda☐
Action Memorandum☐
Public Hearing☒

SUBJECT FOR DISCUSSION

A Ordinance Approving Rezoning of a Property, Legally Described in Exhibit A to the Proposed Ordinance Known as the Flats at Lupton Village Change of Zone.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

The Baessler Development Group has submitted a request for rezoning of a property, legally described in Exhibit A to the proposed ordinance. The current zoning is R-O Residential and Office in the northern portion of the site and C-1 General Commercial in the southern portion of the site. The proposed zoning is to the PUD Planned Unit Development Zone District with single family attached residential land uses and general commercial land uses. The property is located at the northeast corner of S Denver Avenue and County Road 12.

In addition to the rezoning request, the applicant has submitted for concurrent review of a Preliminary Plat and PUD Plan and Final Plat and PUD Plan. The subdivision will consist of 120 single-family attached residential lots and 1 commercial lot. The PUD zoning will allow for consistency between this property and the Lupton Village Subdivision located to the east.

FINANCIAL CONSIDERATIONS

The Applicant has paid all applicable land use application fees and is covering ongoing review expenses.

LEGAL/POLITICAL CONSIDERATIONS

All notification requirements were met, including posting notice of the hearings on the property at least 15 days prior to this public hearing, mailing notice to property owners within 100 feet of the property, and publishing notice of the hearing at least fifteen days prior to the hearing.

ALTERNATIVES/OPTIONS

City Council has the following options for this request:

1. Adopt the Ordinance.
2. Do not adopt the Ordinance.

STAFF RECOMMENDATIONS

Staff recommends approval of the proposed Ordinance rezoning the land described in Exhibit A of the proposed Ordinance to the PUD Planned Unit Development Zone District.

Attachments:

a. Proposed Ordinance
b. Planning Commission Resolution
c. Planning Commission Minutes
d. Staff Report
e. Land Use Application
f. Project Description
g. Change of Zone Description
h. Preliminary Plat and PUD Plan
i. Referral Responses
j. Legal Notifications

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

ORDINANCE NO. 2022-xxxx

INTRODUCED BY: xxx

ADOPT AN ORDINANCE REZONING LAND LEGALLY DESCRIBED IN EXHIBIT A, AND KNOWN AS THE FLATS AT LUPTON VILLAGE CHANGE OF ZONE, TO THE PUD PLANNED UNIT DEVELOPMENT ZONE DISTRICT.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO:

WHEREAS, under the procedures detailed in Section 16-9 of the Fort Lupton Municipal Code, the Applicant, Baessler Development Group, submitted a request to rezone 13.315± acres of land more particularly described in Exhibit A.

WHEREAS, the Planning Commission held a public hearing on the zone request on June 23, 2022, and has provided City Council with Resolution No. P2022-012 recommending approval of the rezoning of land described in Exhibit A to the PUD Planned Unit Development Zone District, with all the uses-by-right allowed in said district.

WHEREAS, the City Council, after public notice and hearing, and consideration of the Planning Commission recommendation, declares that the official zoning map be amended to reflect the change of zone on the property described in Exhibit A of this Ordinance to the PUD Planned Unit Development Zone District, and that this Ordinance is hereby approved.

INTRODUCED, READ, AND PASSED ON FIRST READING, AND ORDERED PUBLISHED this 5th day of July, 2022.

PUBLISHED in the Fort Lupton Press the __th day of ___ 2022.

FINALLY READ BY TITLE ONLY, PASSED AND ORDERED PUBLISHED BY TITLE ONLY this __th day of ___ 2022.

PUBLISHED BY TITLE ONLY the __th day of ___ 2022.

EFFECTIVE (after publication) the __rd day of ___ 2022.

CITY OF FORT LUPTON, COLORADO

_____

Zo Stieber-Hubbard, Mayor

ATTEST:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

EXHIBIT A

PROPERTY DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET

RESOLUTION NO. P2022-012

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF A CHANGE OF ZONE KNOWN AS THE FLATS AT LUPTON VILLAGE CHANGE OF ZONE ON A PROPERTY LOCATED IN PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing June 23, 2022 for the purpose of reviewing a change of zone known as The Flats at Lupton Village Change of Zone to the PUD Planned Unit Development Zone District on a property legally described under Exhibit A to this Resolution, and

WHEREAS, after review of the application and supporting information, the Planning Commission finds that The Flats at Lupton Village Change of Zone application conforms to Colorado Revised Statutes and City codes and policies therein, and

WHEREAS, all legal requirements for the public hearing have been met, including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and post notice of the public hearings on the site.

NOW THEREFORE BE IT RESOLVED, the Planning Commission has taken into consideration all referral comments and citizen testimony in response to this application. Based upon the facts presented on this date the Planning Commission hereby recommends approval of The Flats at Lupton Village Change of Zone to the PUD Planned Unit Development Zone District.

DONE THIS 23rd DAY OF JUNE, 2022, BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

Chairman

ATTEST:

Planning Director

EXHIBIT A

LEGAL DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

THE FLATS AT LUPTON VILLAGE CHANGE OF ZONE STAFF REPORT
PROJECT NO. LUP2022-0006 / PLAN NO. COZ2022-0003

PROJECT DESCRIPTION

Project No.: LUP2022-0006 / Plan No. COZ2022-0003

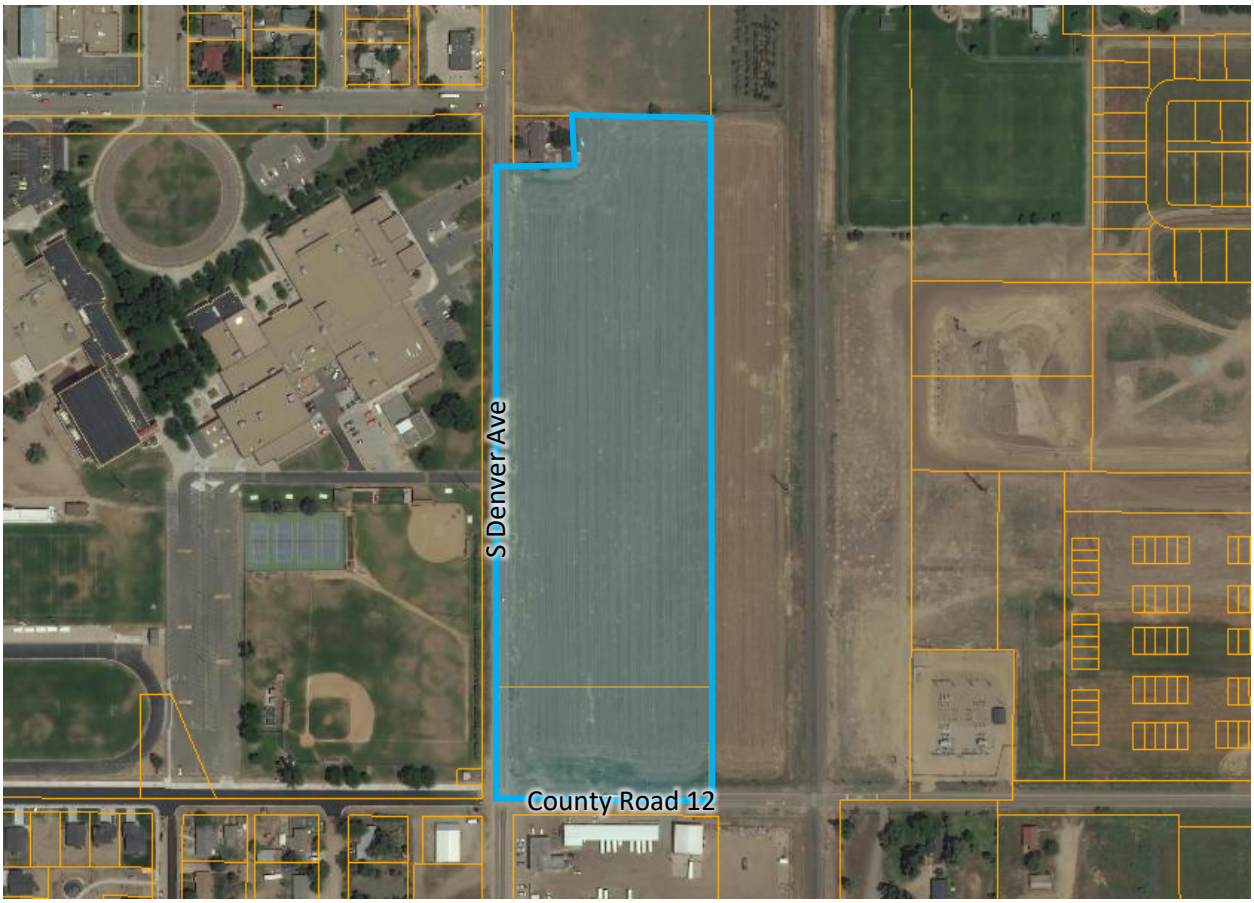
Project name: The Flats at Lupton Village Change of Zone

Owner's Name: Fort Lupton Commercial General Partnership

Representative: Mitchell Nelson with Baessler Development Group ("Applicant")

Location of Request:

The site is situated at the northeast corner of S Denver Avenue and County Road 12 (the Property). The Property is located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Nature of Request:

The Applicant has submitted a change of zone request to the 'PUD' Planned Unit Development Zone District for the property identified on the map above. The current zoning of the Property is C-1 General Commercial on the south and R-O Residential and Office on the north. This rezoning has been submitted concurrently for review with Preliminary Plat and PUD Plan and Final Plat and PUD Plan of The Flats at Lupton Village PUD.

Site Size: The Property is 13.315 acres, more or less.

Current Zone District: C-1 General Commercial and R-O Residential and Office.

Proposed Zone District: PUD Planned Unit Development with R-3 and C-1 land uses.

Proposed Use: A single-family attached residential subdivision with commercial lot.

Existing Use: Vacant/Agricultural.

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with Conditions as listed on the resolution/ordinance.

SUMMARY OF PREVIOUS APPLICATIONS

A Sketch Plat and Sketch PUD Plan was reviewed and approved by City Council on December 21, 2021.

APPLICATION PROCESS

The Applicant is requesting approval of a change of zone to the PUD Planned Unit Development with single-family attached residential uses and general commercial land uses as identified in its Preliminary PUD Plat (separate, concurrent submittal).

A change of zone is processed under Section 16-9 of the Fort Lupton Municipal Code ("Code"). After required public notice of the change of zone, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the change of zone. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The City Council shall then conduct a public hearing and evaluate the change of zone, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve, conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Zoning Regulations require published notice of the hearings at least fifteen (15) days prior to the hearings. The Planning Commission and City Council hearings were published in the Fort Lupton Press on May 19, 2022.

Notice of the public hearings were posted on the Property pursuant to the Zoning Regulations at least fifteen (15) days prior to the hearings.

Notice was mailed to neighbors within one-hundred (100) feet of the Property on May 25, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

The Property is located within the C-1 General Commercial Zone District, governed by Section 16-32 of the Fort Lupton Municipal Code, and R-O Residential and Office Zone District, governed by Section 16-39 of the Fort Lupton Municipal Code.

The Applicant wishes to change the zone of the Property to the PUD Planned Unit Development Zone District, governed by Section 16-45 of the Fort Lupton Municipal Code. The intent of the PUD is to provide for the planning and development of substantial tracts of land, suitable in location and character for the uses proposed, as unified and integrated entities in accordance with detailed development plans.

The Applicant has submitted the required documents pursuant to the Code.

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The Future Land Use Map designates this parcel for Single-Family Detached Residential land uses, however the entire Lupton Village Area includes Single-Family Residential, Multi-Family, and General Commercial Land Uses.

The Commercial land use designation allows for commercial businesses that offer residents basic goods and services. This supports a range of development styles, including stand-alone businesses on smaller properties as well as commercial shopping centers with multiple tenants. Primarily located along the City's major corridors, expansion of general commercial will offer residents greater shopping options within Fort Lupton and contribute to increased local commerce. In addition to commercial, these areas can include small office buildings, medical practices, and public and semi-public uses. The Multi-Family Residential land use designation allows for multi-family buildings and planned multi-family developments. Multi-family complements traditional single family detached by offering the highest density options within Fort Lupton. Opportunities to develop new multi-family will provide affordable housing options and contribute to greater housing diversity. The Single-Family Detached designation allows for neighborhoods of predominantly single family detached homes on individual lots. This can consist of a variety of development types, including higher density homes within the City's urban core and planned subdivisions within residential growth areas. In addition to single family units, these neighborhoods may include scattered single family attached and multi-family housing options, as well as public and semi-public uses. Given market demand, single family neighborhoods are likely to remain the primary residential designation within Fort Lupton and should see considerable growth in the future.

It is staff's opinion that the proposal meets the intent of the Comprehensive Plan.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings/Grounds Manager	Building Inspector	City Attorney
Recreation Manager	GIS Specialist	Police Chief
Public Works Director	Golf Course Manager	Fort Lupton Fire Protection District
CDOT	United Power	Comcast
CenturyLink	Xcel Energy	Weld County GIS
Weld County School District RE-8	NCWCD	Fulton Ditch Company

STAFF RECOMMENDATION

Staff recommends conditional approval of the Flats at Lupton Village Change of Zone.

For more information on this development, please refer to the packet provided. Additional documents are available for review at the Fort Lupton City Hall.

Form PLAN002

Clear Form

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: William J. Johanningmeier

Company: Fort Lupton Commercial General Partnership

Phone: 970-227-3393 Email: bj@cbanoco.com

Address: 1295 Main Street #5, Windsor CO 80550

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Mitchell Nelson

Company: Baessler Development Group

Phone: 970-373-8569 Email: mnelson@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

Preferred method of contact? Email: ☑ Phone: ☑ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Melissa Wheeler

Billing Company: Baessler Development Group

Phone: 970-412-2153 Email: mwheeler@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

B. SITE DESCRIPTION

Site Address: _____

Parcel Number: 147105300004

Existing Zone Classification: R-3 Proposed Zone Classification: PUD

Water Type: Municipal Name: Flats at Lupton Village

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☑ PUD Plan (Preliminary & Final)
☑ Preliminary Plat	☐ Special Use Permit	☐ Variance
☑ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☑ Change of Zone	☐ Other: _____
☐ Site Plan	☑ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Flats at Lupton Village

Please provide a short description of the proposed project in the space provided below:

Located northeast of the intersection of Kahil Street (CR12) and Denver Avenue, Lupton Flats is a proposed PUD incorporating 120 Single Family Attached units, a commercial pad, and open space. Total acreage for the site is 13.31 acres. The project will access off Denver Avenue and include a public road with alley access for residents to their garage entrances.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Mitchell Nelson Date: 2/22/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: William J. Johanningmeier Date: 2/22/22

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.

2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.

3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

VIA Print/Email

City of Fort Lupton

Attn: Todd Hodges

February 22, 2022

RE: Overall Project Description

Dear City Staff,

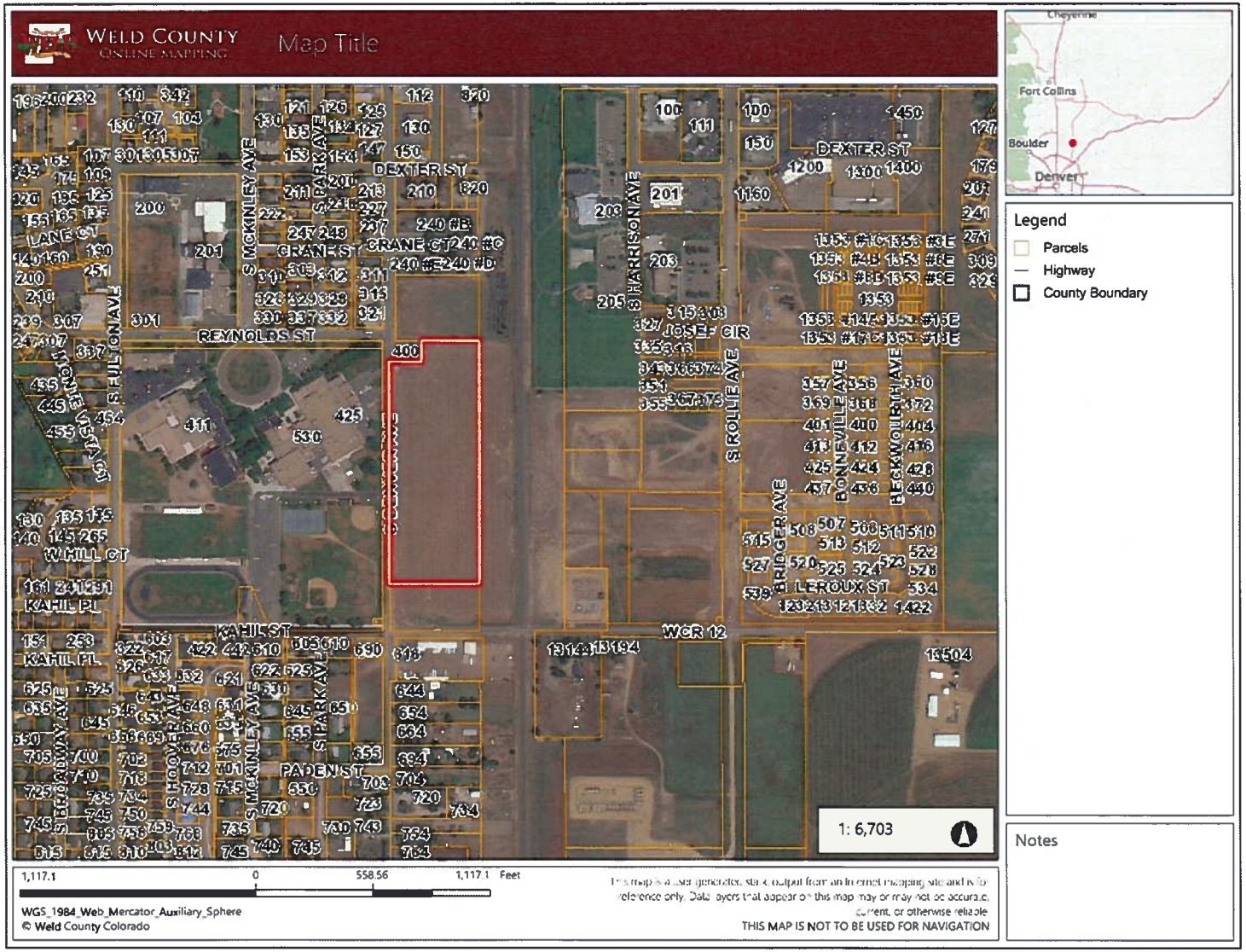
Lupton Flats (vicinity map sheet 2) is a PUD that proposes the construction of a single-family attached community consisting of approximately 120 units. The community will have two accesses off Denver Ave. There will be a primary public road moving north to south through the site. Alley access for the single family attached units will come laterally off the public right of way. It will include construction of sidewalk along both Denver Ave and County Road 12 within the project boundaries. There will be greenspace areas for residents of the community and a commercial lot will be preserved at the intersection of Denver Ave and County Road 12. The single family attached product will vary from 2 to 3-bedroom units and will be owned fee simple by buyers. Given the location of the project and proximity to both schools, City of Fort Lupton recreational facilities and trails, we believe that the proposed product type is appropriate and will be a valuable addition to the city.

Respectfully,

Andrew Gerk, Executive Vice President

Baessler Development LLC

3780 W 10TH ST. STE. 200, GREELEY, CO / 970-353-1492 / **BAESSLERHOMES.COM**


WELD COUNTY
ONLINE MAPPING
Map Title
DEXTER ST
REYNOLDS ST
CRANE ST
CRANE CT
JOSEF CIR
W HILL CT
KAHIL PL
KAHIL ST
PADEN ST
LEROUX ST
WCR 12
S MCKINLEY AVE
S PARK AVE
S HARRISON AVE
S ROLLIE AVE
BONNEVILLE AVE
BRIDGER AVE
HECKWORTH AVE
S HOOVER AVE
S FULTON AVE
Cheyenne
Fort Collins
Boulder
Denver
Legend
Parcels
Highway
County Boundary
Notes
1: 6,703
1,117.1
0
558.56
1,117.1 Feet
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Weld County Colorado
THIS MAP IS NOT TO BE USED FOR NAVIGATION

VIA Print/Email

City of Fort Lupton

Attn: Todd Hodges

February 22, 2022

RE: Change of Zone Description

Dear City Staff,

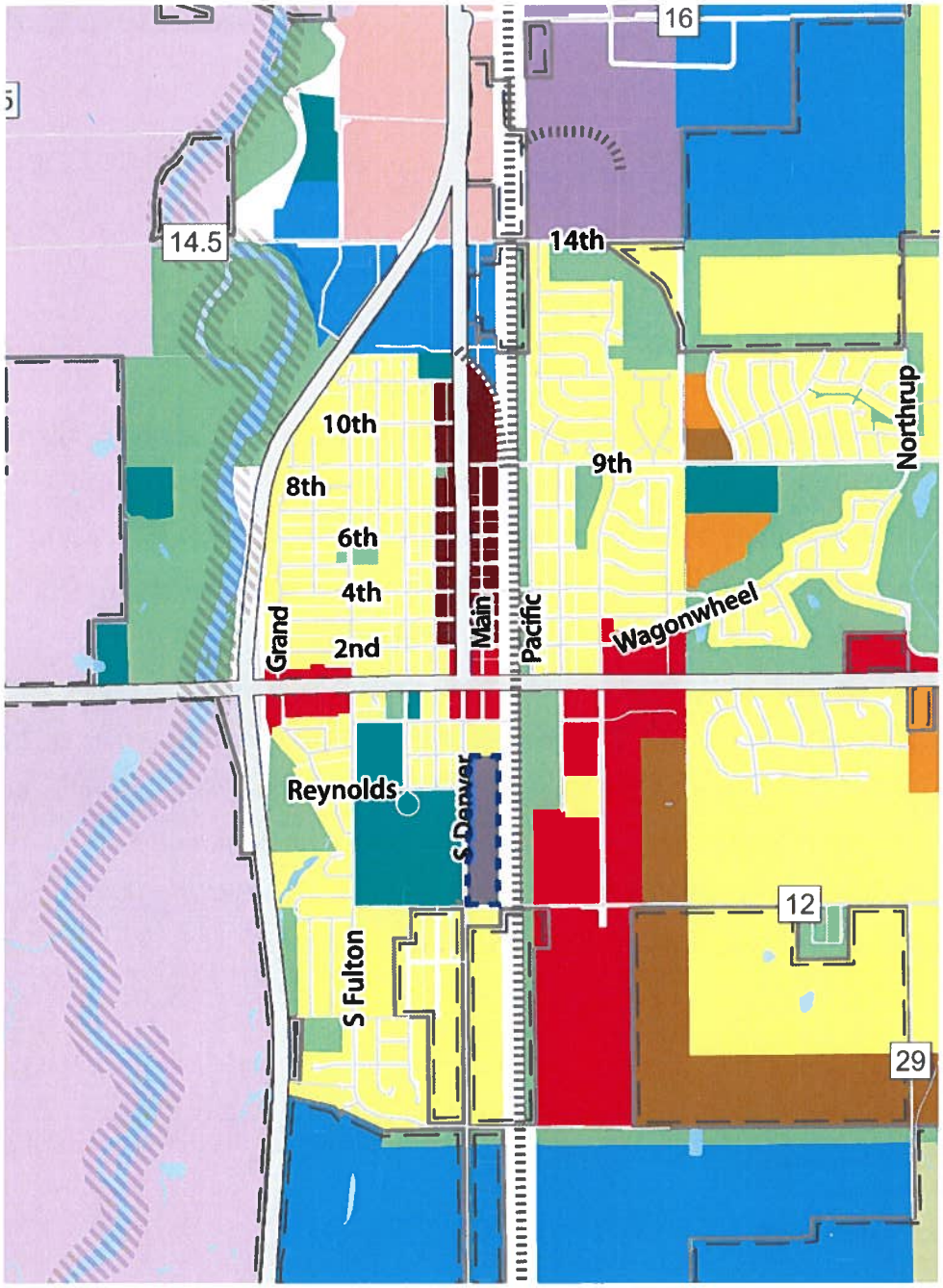
Baessler Development LLC is requesting a change of zone to PUD for the property in Exhibit A. The PUD request is to allow for the construction of a single-family attached community consisting of approximately 120 units. The community will have two accesses off Denver Ave. There will be a primary public road moving north to south through the site. Alley access for the single family attached units will come laterally off of the public right of way. It will include construction of sidewalk along both Denver Ave and County Road 12 within the project boundaries. There will be greenspace areas for residents of the community and a commercial lot will be preserved at the intersection of Denver Ave and County Road 12. The single family attached product will vary from 2 to 3-bedroom units and will be owned fee simple by buyers. Given the location of the project and proximity to both schools, City of Fort Lupton recreational facilities and trails, we believe that the proposed product type is appropriate and will be a valuable addition to the city.

Respectfully,

Andrew Gerk, Executive Vice President

Baessler Development LLC

Exhibit A


16
14.5
14th
10th
8th
6th
4th
2nd
Grand
Main
Pacific
9th
Northrup
Wagonwheel
Reynolds
S Denver
S Fulton
12
29

PUD Land Use Standards

Setbacks	Proposed PUD	R-3 Zoning
Front	20'*	25'
Rear	15'*	20'
Side	Per City Code	5'
Corner	15'*	20'

Minimum Lot Area	Proposed PUD	R-3 Zoning
	1,000 SQ. FT.*	5,000 SQ. FT.

Minimum Lot Frontage	Proposed PUD	R-3 Zoning
	N/A	30'

* Denotes a variation of standards as compared with the R-3 Zoning District

Exterior wall materials	Proposed PUD	Residential Design Guidelines
Enhanced wall material	MIN. 25% Masonry Veneer/Stucco	MIN. 35% Brick/Stone
Remaining wall material	Siding	Stucco or Siding

- Future commercial area to abide by City of Fort Lupton C-1 standards.

Residential Design Guideline Variations

The Flats at Lupton Village PUD Requests a variance from the following residential design guidelines:

1. **Section IV.H.2.(a)(3):** Every building containing four (4) or more dwelling units shall have at least one (1) building entry or doorway facing any adjacent street that is not an arterial street or that has on-street parking.
2. **Section IV.H.3.(d)(1)**

PUD Land Use Standards - Residential

Zoning Standards

1. Permitted uses: Single-family attached uses shall be allowed in this PUD.
2. Maximum height: 35' (per City code)
3. Setbacks: Refer to "zoning code variation table". Every part of a required yard or setback shall be open and unobstructed, except from the ordinary projection of sills, cornices, ornamental features and eaves; provided, however, that none of the above projections shall project into a side yard more than twenty-four (24) inches.
4. Minimum lot area: Refer to "zoning code variation table".
5. Minimum floor area per dwelling unit: 750 sq. Ft. (per City code)
6. Minimum lot frontage: Refer to "zoning code variation table".
7. Fencing standards: Fences shall be constructed per the requirements of Chapter 16, Article V, of the Fort Lupton municipal code, except that chain link/woven wire fences are not an allowed material.
8. Utility maintenance statement: All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton public works department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.
9. Sight triangles: The construction of any fence and/or landscaping located at the intersection of public streets shall not obstruct motor vehicle operator views and shall comply with the requirements of Section 16-102 of the municipal code.

Design Guidelines

1. Building design repetition: identical building designs shall not be placed adjacent to each other. adjacent shall be defined as across streets, alleys, or sidewalks.
2. Exterior wall materials: refer to 'residential design guideline variations". wall materials shall be carried around all four building sides.
3. Roofing material: all sloped roof areas shall be clad with either high profile composition shingles such as slate, tile, or dimensional asphalt shingles, concrete or clay tiles, or seamed architectural metals.
4. Unique building characteristics: all buildings shall employ at least two (2) of the following design items applied consistently along each facade:
   a. Projections
   b. Recesses
   c. Shadow lines
   d. Window patterns
   e. Overhangs
   f. Reveals
   g. Changes in parapet height.
6. Building Enhancements: Each building shall contain at least six (6) of the following features:
   a. A minimum habitable floor area (excluding unfinished garage, attic, or unfinished basement space) of at least 1,000 square feet.
   b. A first floor front facade elevation that is 100% masonry.
   c. A primary roof slope of at least 6:12.
   d. A garage door with windows.
   e. Transom windows on at least one-quarter (1/4) of the windows facing public or private streets.
   f. At least one bay window.
   g. A front door containing two sidelights or one transom over the front door.
   h. An outdoor private enclosed area of at least one hundred (100) square feet.
   i. A covered front porch at least five (5) feet x eight (8) feet.
   j. A functional or simulated chimney appearing on an exterior wall, faced with masonry or stucco.
   k. At least one hundred (100) square feet of patterned paving materials used in driveways or walks open to public view.
   l. At least one roof dormer containing a window.
   m. A unit designed so that the unit's garage door or doors and its "front entry" appear on different sides of a building.
   n. A unit located in an attached town home row or attached cluster containing no more than three (3) units.
   o. A unit located in an attached townhouse row or attached cluster where no single elevation of the entire row or cluster contains more than four (4) garage doors (if garages are provided)
   p. The distance between residential structures is a minimum of 30 feet.
   q. Front elevation of the building contains at least three distinct roof breaks.
   r. Adjacent units in a building are different elevations.

PUD Zone District Standards - Commercial

1. Permitted Uses: General commercial uses shall be allowed in this PUD.

Utility Maintenance Statement

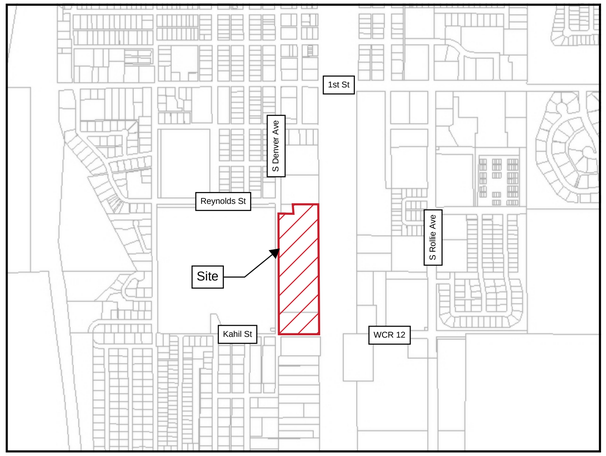
All streets as designated on page C13.2 - C13.4 of the approved construction plans and including Denver Avenue and CR12 are considered Public and will be maintained by the City.

City will be responsible for maintenance of all water, storm and sanitary sewer mains, submains and laterals up to the property line of each individual unit. Metro District is responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

All streetscaping will meet the requirements of the Fort Lupton Subdivision Regulations. Detention or Retention Pond improvements will be required at the time of construction on the site as determined by the Phase III Drainage Study submitted.

The Flats at Lupton Village Preliminary Plat/PUD

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Vicinity Map
Not to Scale

Sheet List Table			Revisions					
Page	Sheet Number	Sheet Title	A	B				
1	C1.0	Cover Sheet	✓	✓				
2	C1.1	Preliminary Plat	✓	✓				
3	C6.0	Grading Plan	✓	✓				
4	C8.0	Utility Plan	✓	✓				
5	C8.1	Utility Plan	✓	✓				
6	E1.0	Representative Elevations	✓	✓				
7	E1.1	Representative Elevations	✓	✓				
8	L1.0	Landscape Plans	✓	✓				
9	L2.0	Landscape Plans	✓	✓				
10	L3.0	Landscape Plans	✓	✓				
11	L4.0	Landscape Plans	✓	✓				
12	L5.0	Landscape Notes & Details	✓	✓				
13	LT1.0	Lighting Plans	✓	✓				

Land Use Summary Table								
Land Use	Area (ac)	No. of Units	Density	Garage Parking Provided	Off-Street Parking Provided	Required Parking	Open Space	Landscape Surface Ratio
Single-Family Attached	10.34	120	11.61 units/acre	240	72	240 (2 per unit)	4.62 acres	45%
Commercial	1.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A

- Future design to account for Land Use of commercial area.

Legal Description

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.

Project Contacts

Owner/Applicant
Baessler Development LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634
(970) 702-2051

Surveyor
Lat40, Inc.
6250 West 10th Street #2
Greeley, CO 80634
(970) 515-5294

Civil Engineer
LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634
(970) 632-2311

Landscape Architect
Ripley Design, Inc.
419 Canyon Avenue, Suite 200
Fort Collins, CO 80521
(970) 224-5828

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/20/2022

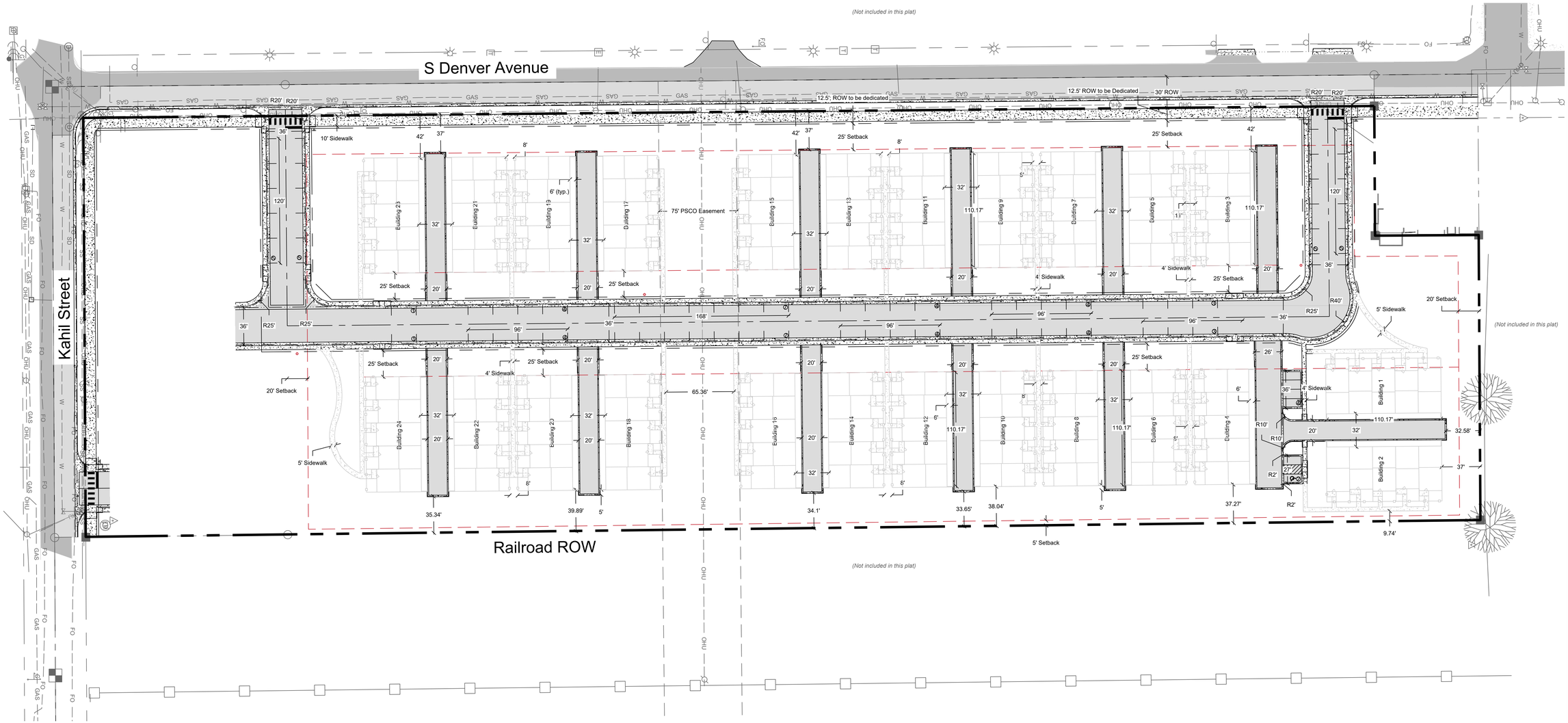
LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

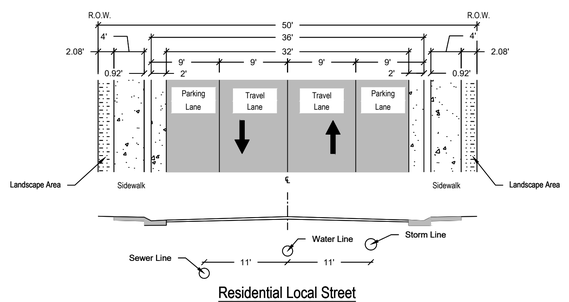
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	02/22/2022	1st Submittal to City
B	04/22/2022	2nd Submittal to City

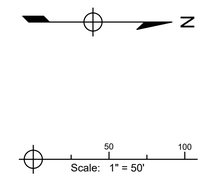
The Flats at Lupton Village — Cover Sheet — Fort Lupton, CO

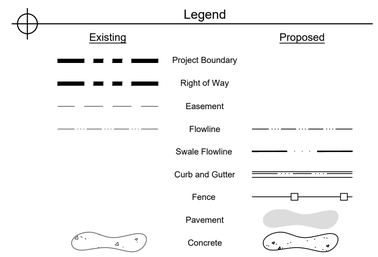
Sheet C1.0





Residential Local Street





LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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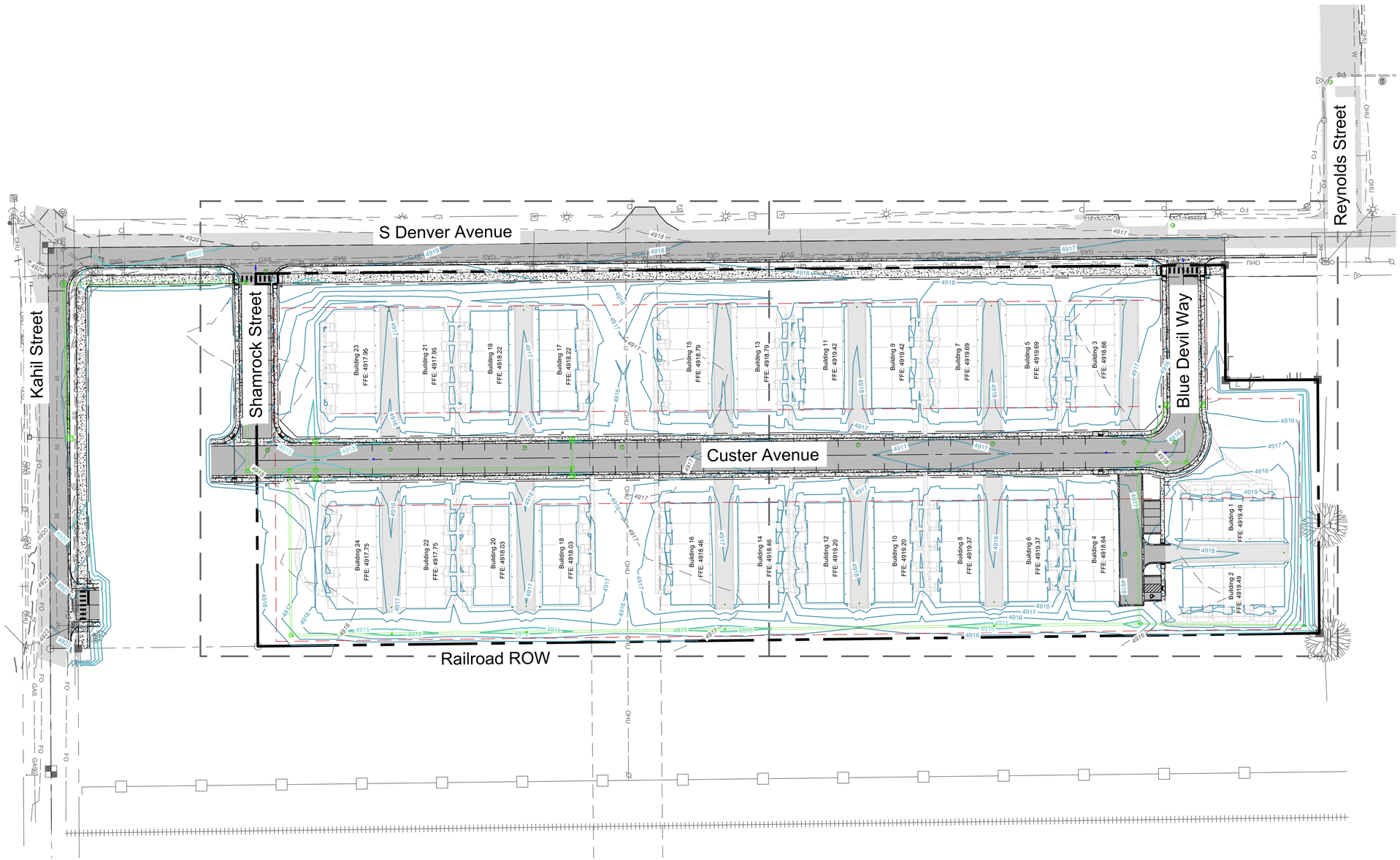
The Flats at Lupton Village

Preliminary Plat

Fort Lupton, CO

Sheet C1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\PUD Preliminary Plat 21-031.dwg, 4/12/2022 12:19:36 PM, Sam Boyd, LandOne Engineering



N

Scale: 1" = 60'

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
4800 Major Contour	4800
4801 Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Grading Plan Notes

1. FFEs are provided as reference only of possible future design, as well as to convey a design intent. Grading of townhomes, individual sidewalks, and driveways will be completed at time of plot plan.

LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

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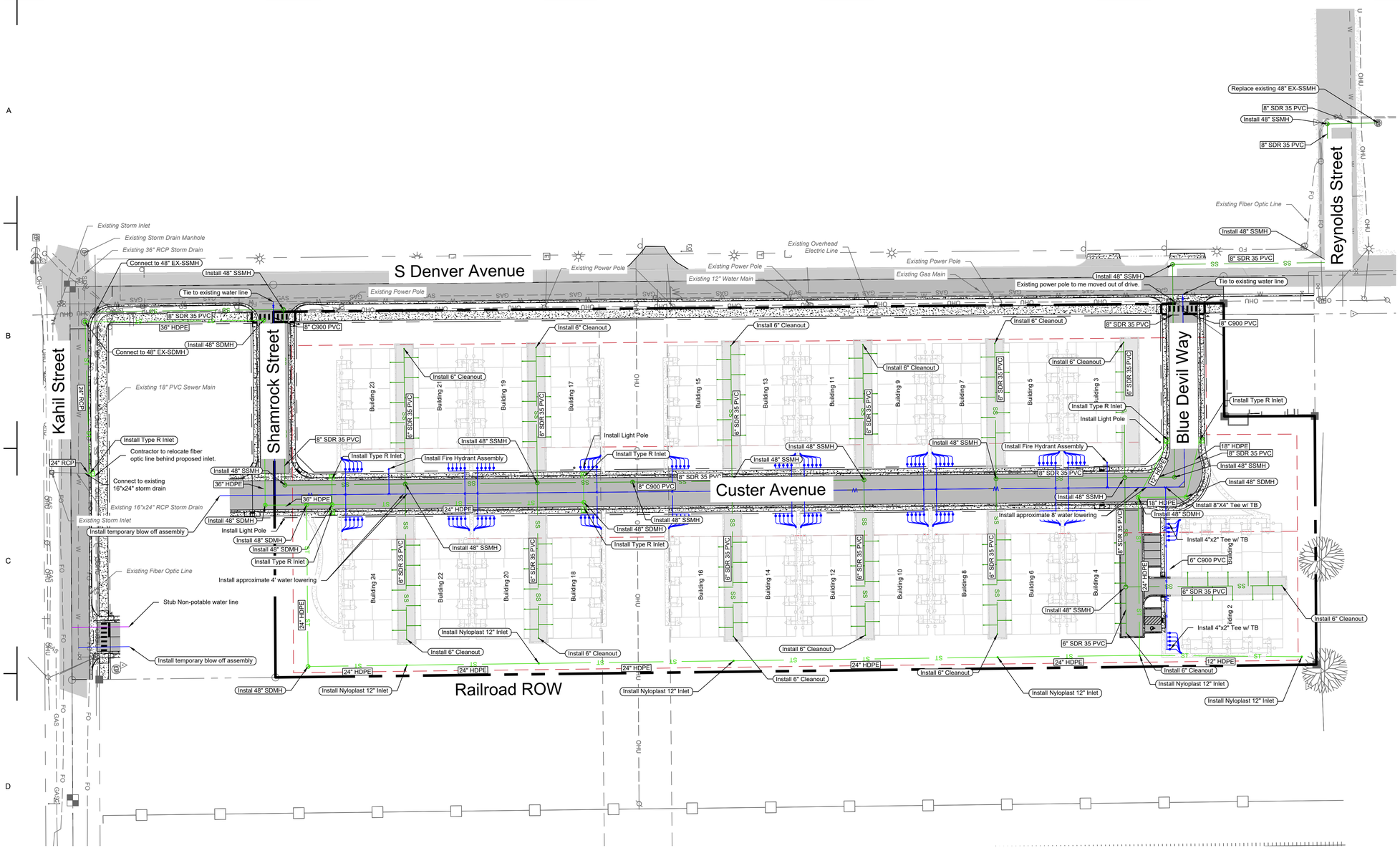
The Flats at Lupton Village
Construction Documents

Overall Grading Plan

Fort Lupton, CO

Sheet C6.0

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Overall Grading Plan 21-031.dwg, 4/22/2022 1:21:02 PM, Jennilinn, LandOne Engineering



N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

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Date 04/22/2022

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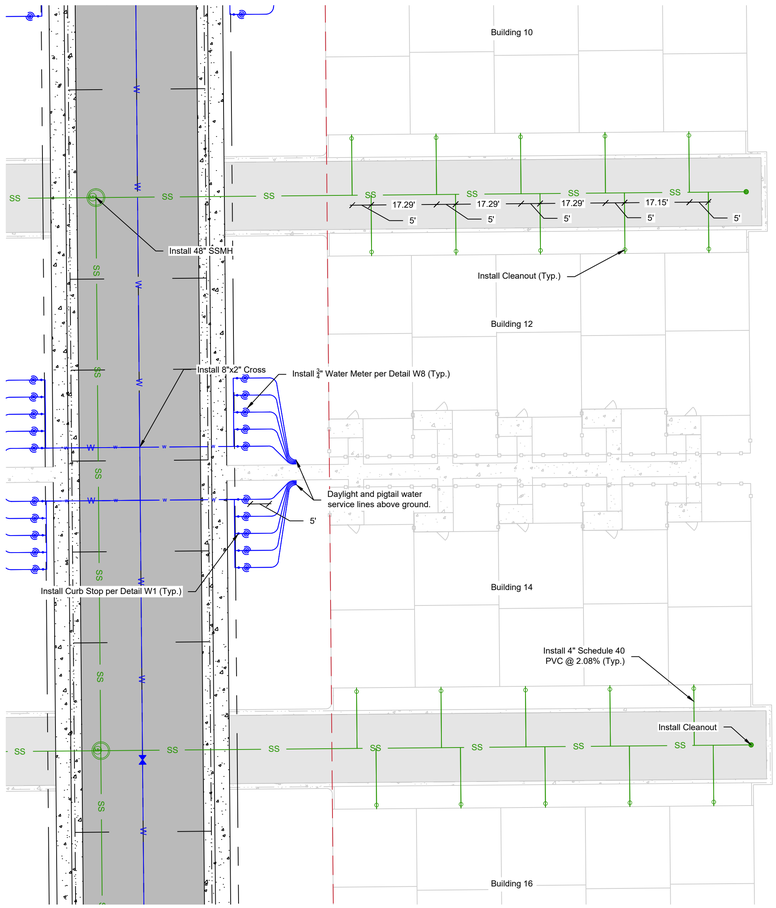
Rev. No.	Date	Revision Description
A	03/22/2022	1st Submittal to City
B	04/22/2022	2nd Submittal to City

The Flats at Lupton Village
Construction Documents

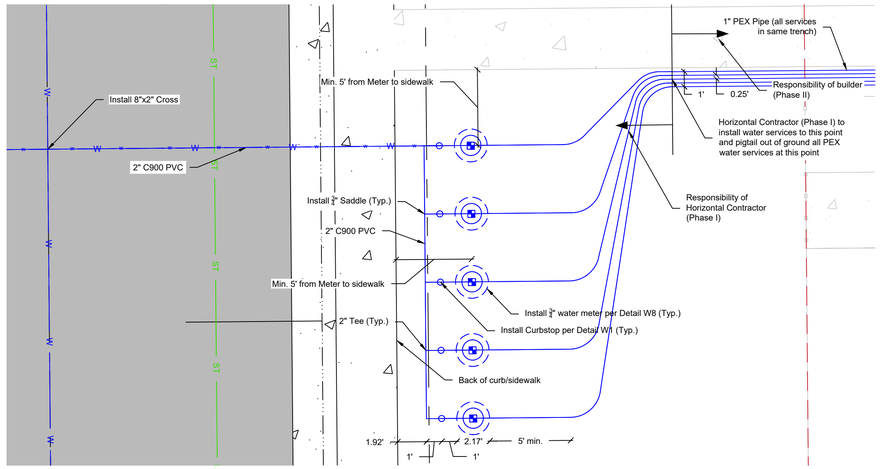
Overall Utility Plan

Fort Lupton, CO

Sheet C8.0



Phase I (Horizontal) Typical 5-Plex Utility Layout
Scale: 1" = 20'



Typical Water Service Meter/Curbstop Layout
Scale: 1" = 5'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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Job Number	21-031
Checked By	JG
Date	04/22/2022

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The Flats at Lupton Village
Construction Documents

Typical Utility Services

Fort Lupton, CO

Sheet
C8.1





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361 71st Avenue, Suite 100
Greeley, CO 80634

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CONSTRUCTION

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The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.0







LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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NOT FOR
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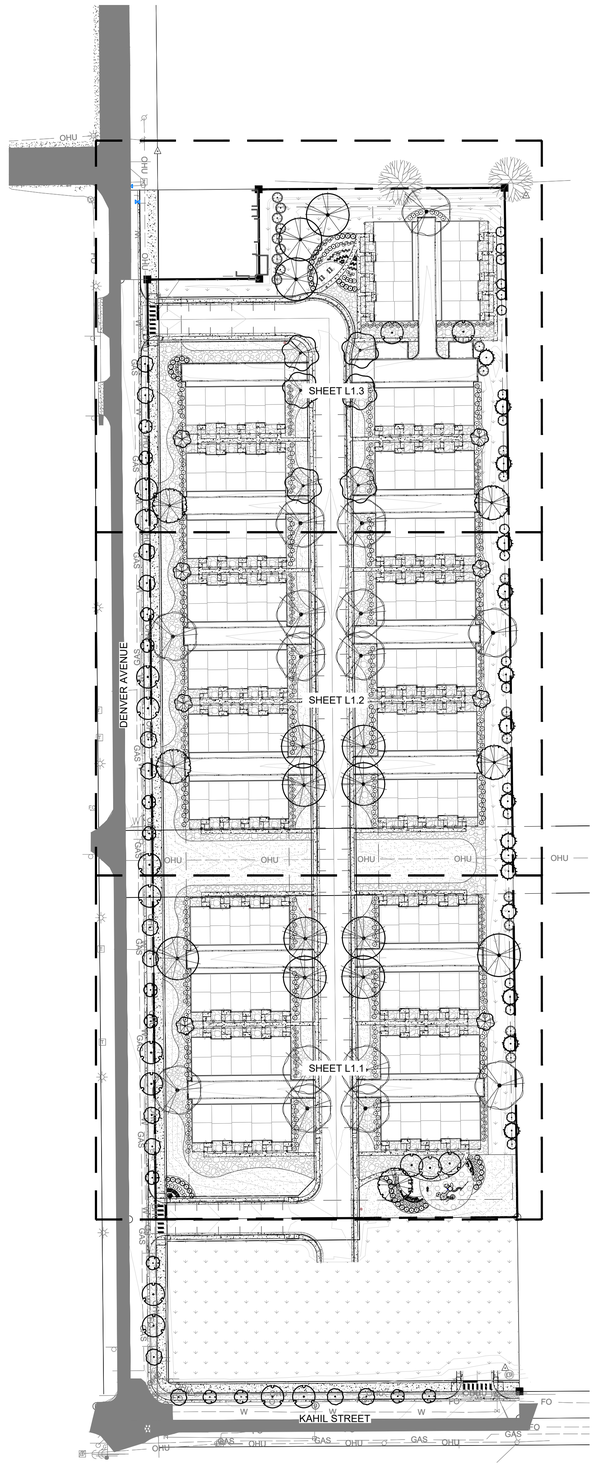
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The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.1



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
	5	AESCULUS GLABRA OHIO BUCKEYE
	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
	15	QUERCUS ROBUR ENGLISH OAK
	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
	14	ACER GINNALA AMUR MAPLE
	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	CONCRETE

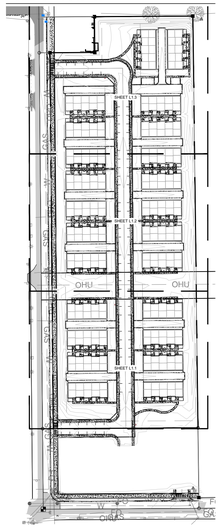
02 LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

KEY MAP



THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH
SCALE: 1"=80'-0"
0 40 80 160

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

OVERALL LANDSCAPE PLAN

SEAL:

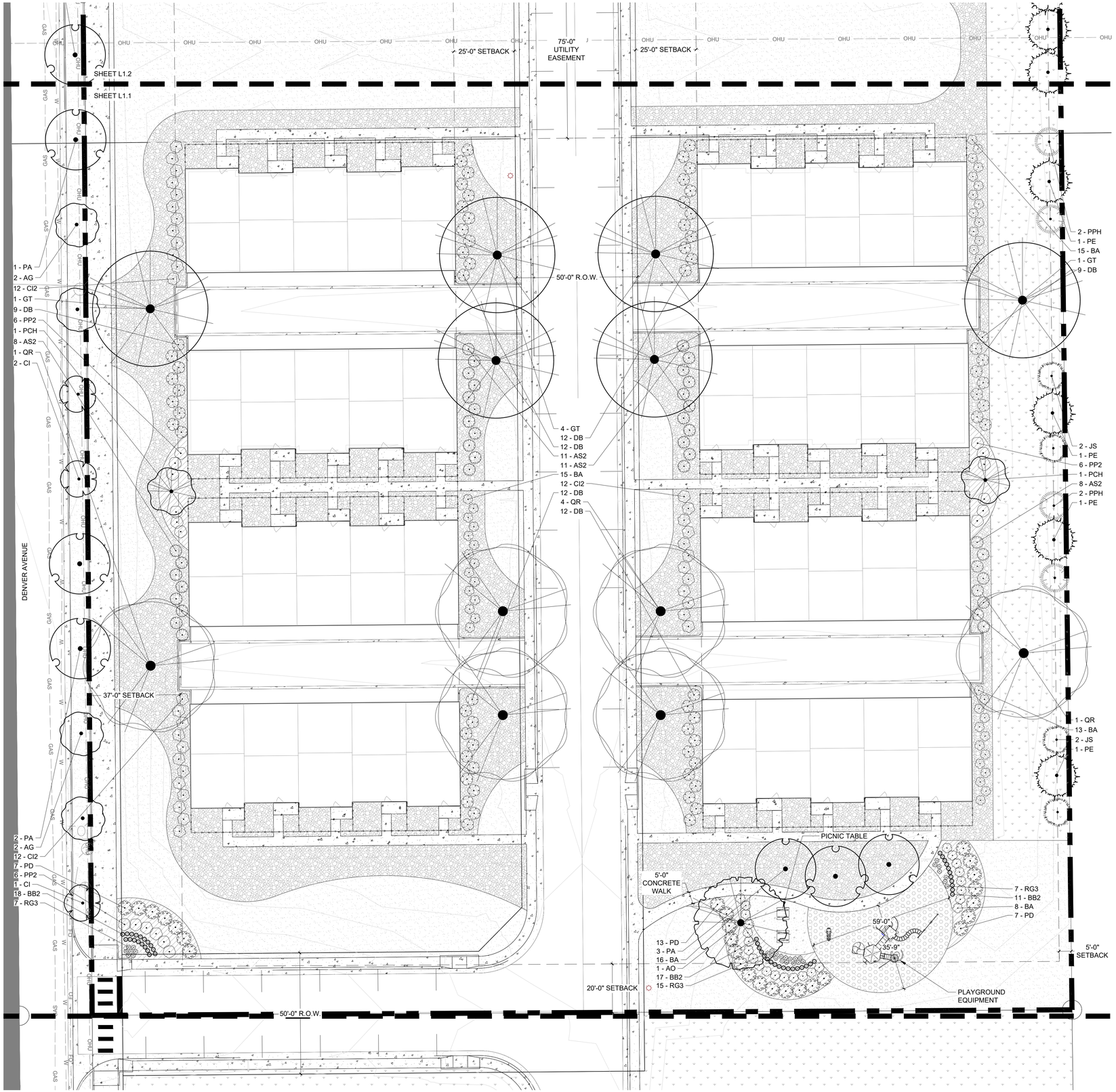
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

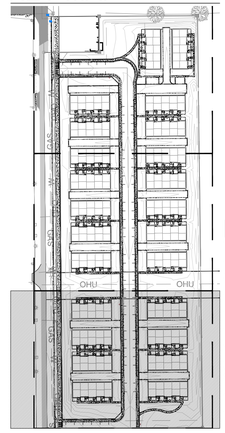
DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
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ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
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CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
PA	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
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ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
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= PROPERTY BOUNDARY
= STORM DRAIN
= EXISTING SANITARY SEWER
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= OVERHEAD ELECTRIC
= EXISTING FENCE
= EXISTING TREE
= EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

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LANDSCAPE PLAN ENLARGEMENT

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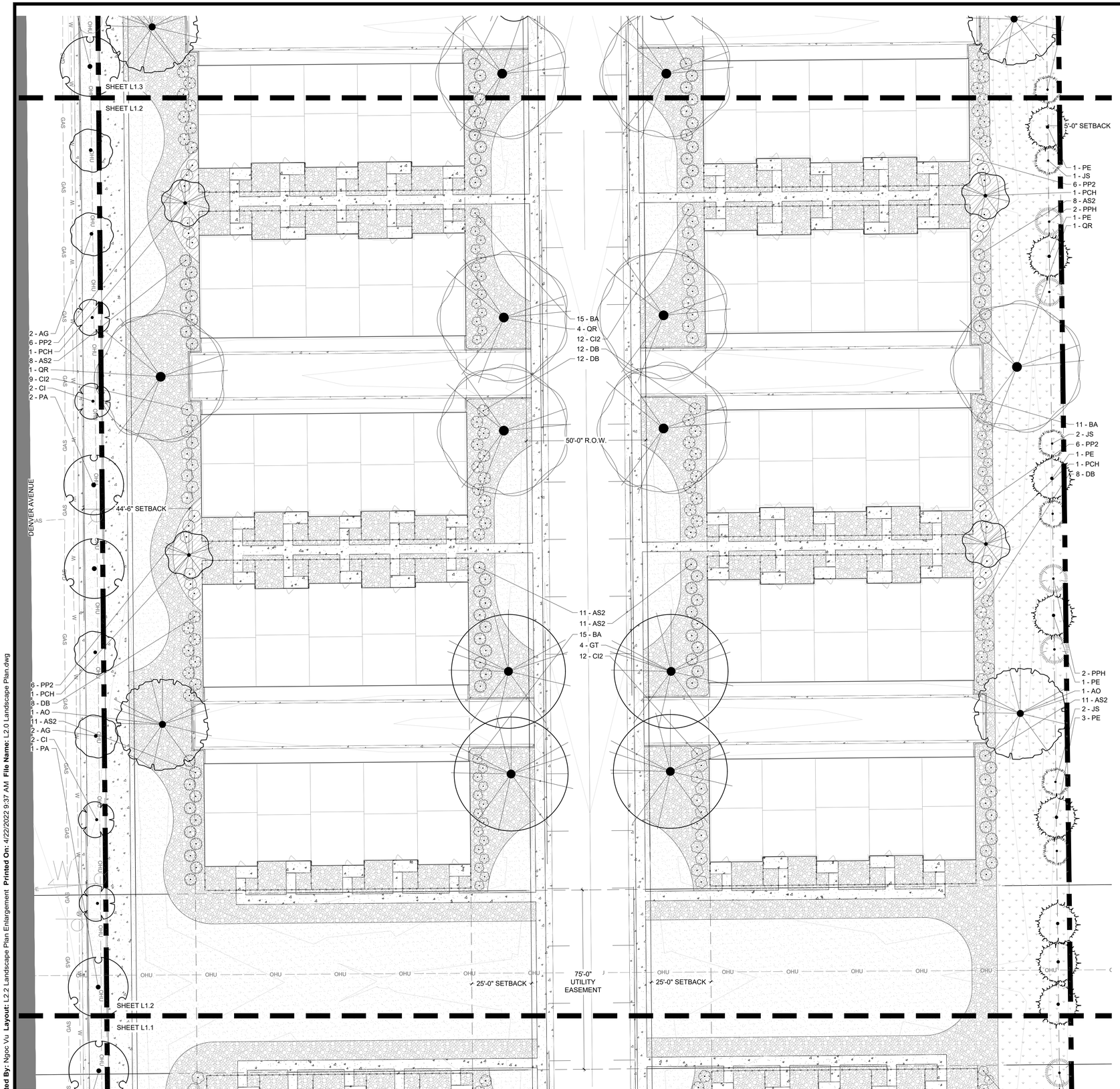
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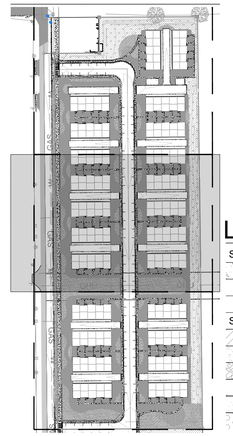
DRAWING NUMBER:

L1.1 OF 5

Plotted By: Ngoc Vu **Layout:** Landscape Plan Enlargement **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



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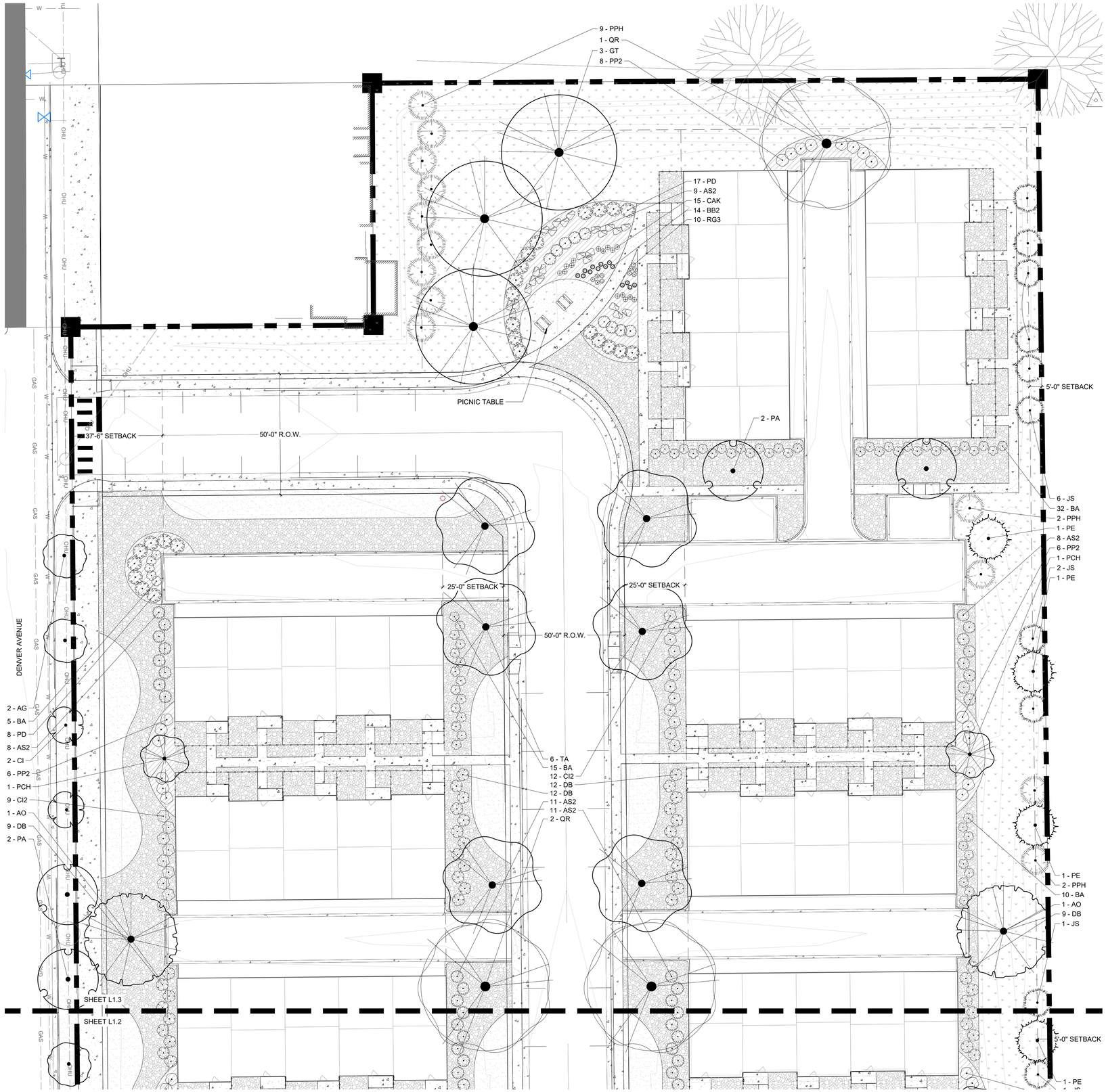
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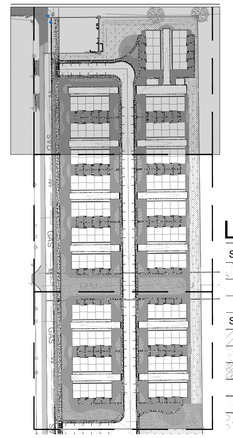
DRAWING NUMBER:

L1.2 OF 5

Plotted By: Ngoc Vu **Layout:** L2.2 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

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SYMBOL	DESCRIPTION
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CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
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- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
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THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

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NORTH
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SCALE: 1"=20'-0"

ORIGINAL SIZE 24X36

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No.	DESCRIPTION	DATE
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REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

DRAWING NUMBER:

L1.3 OF 5

Plotted By: Ngoc Vu **Layout:** L2.3 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg

GENERAL LANDSCAPE NOTES

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE - FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT.

2. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE CITY WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.

3. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

4. SOIL AMENDMENTS: SOIL AMENDMENTS SHALL BE PROVIDED AND DOCUMENTED IN ACCORDANCE WITH CITY CODE SECTION 12-132. THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, A WRITTEN CERTIFICATION MUST BE SUBMITTED TO THE CITY THAT ALL PLANTED AREAS, OR AREAS TO BE PLANTED, HAVE BEEN THOROUGHLY LOOSENED AND THE SOIL AMENDED, CONSISTENT WITH THE REQUIREMENTS SET FORTH IN SECTION 12-132.

5. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.

6. MAINTENANCE: TREES AND VEGETATION, IRRIGATION SYSTEMS, FENCES, WALLS AND OTHER LANDSCAPE ELEMENTS WITH THESE FINAL PLANS SHALL BE CONSIDERED AS ELEMENTS OF THE PROJECT IN THE SAME MANNER AS PARKING, BUILDING MATERIALS AND OTHER SITE DETAILS. THE APPLICANT, LANDLORD OR SUCCESSORS IN INTEREST SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL LANDSCAPING ELEMENTS IN GOOD CONDITION. ALL LANDSCAPING SHALL BE MAINTAINED FREE FROM DISEASE, PESTS, WEEDS AND LITTER, AND ALL LANDSCAPE STRUCTURES SUCH AS FENCES AND WALLS SHALL BE REPAIRED AND REPLACED PERIODICALLY TO MAINTAIN A STRUCTURALLY SOUND CONDITION.

7. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.

8. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:
   - 10 FEET BETWEEN TREES AND FIRE HYDRANTS AND OVERHEAD UTILITY POLES.
   - 10 FEET BETWEEN TREES AND ANY UNDERGROUND UTILITIES.
   - 30 FEET BETWEEN TREES AND STREET INTERSECTIONS

9. ALL STREET TREES SHALL BE PLACED A MINIMUM EIGHT (8) FEET AWAY FROM THE EDGES OF DRIVEWAYS AND ALLEYS.

10. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT LUPTON.

11. THE FINAL LANDSCAPE PLAN SHALL BE COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE

12. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION – AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED.

13. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES.

14. IRRIGATED TURF SHALL BE TEXAS BLUEGRASS/KENTUCKY BLUEGRASS HYBRID REVEILLE OR APPROVED EQUAL.

15. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL BE 18" X 4" ROLLED TOP STEEL SET LEVEL WITH TOP OF SOD OR APPROVED EQUAL.

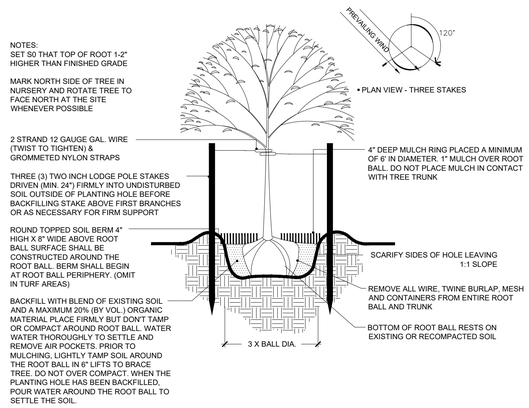
16. STRAW / COCONUT SOIL RETENTION BLANKET SHALL BE APPLIED TO ALL SEEDED AREAS ON SLOPES GREATER THAN 3:1.

17. ONLY SMALL TREES SHALL BE USED WHEN PLANTING UNDER OR WITHIN 10 LATERAL FEET OF OVERHEAD UTILITY WIRES.

18. ONLY SMALL TREES SHALL BE PLANTED OVER OR WITHIN 10 10 LATERAL FEET FROM ANY UNDERGROUND UTILITIES.

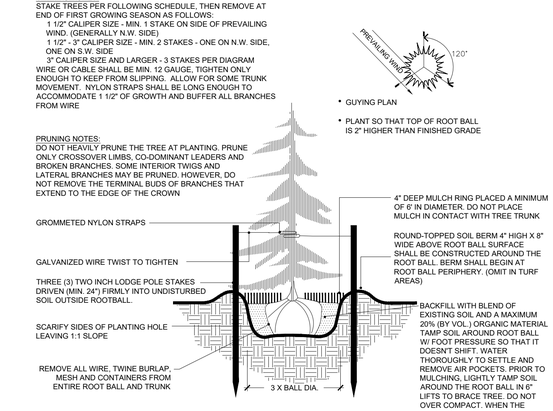
WATER USE TABLE

HYDROZONE	AREA (SF)	WATER NEEDED (GALLONS/SF)	ANNUAL WATER USE (GALLONS)
MODERATE	28022	10	280,220.00
LOW	82495	3	247485.00
VERY LOW	169064	0	0.00
TOTAL	279,581	1.8875	527,705
ANNUAL WATER USE NOT TO EXCEED 15 GAL./SF. AVERAGE OVER THE SITE			



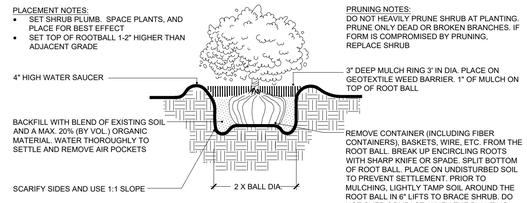
1 TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-02



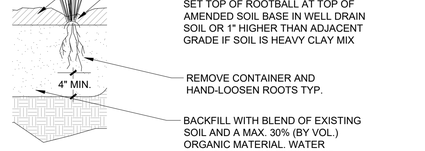
2 CONIFER TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-16



3 SHRUB PLANTING DETAIL

SCALE: NTS L-PL2-PLA-14



4 ORNAMENTAL GRASS DETAIL

NO SCALE L-PL2-PLA-19

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NOTES & DETAILS

SEAL:

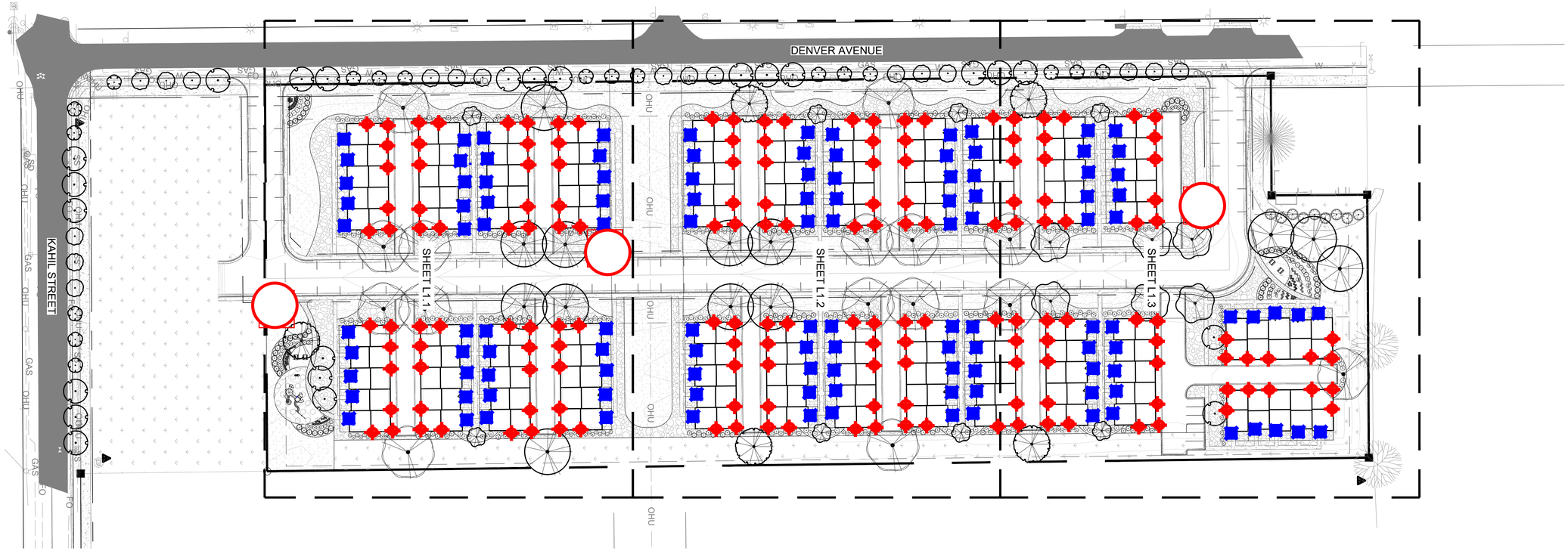
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

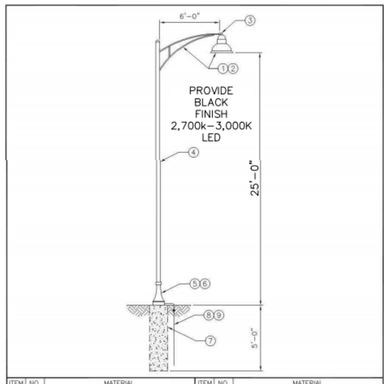
DRAWING NUMBER:

L2.0 OF 5

Plotted By: Ngoc Vu **Layout:** Notes & Details **Printed On:** 4/22/2022 9:37 AM **File Name:** L3.0 Notes & Details.dwg



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec - 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: B. Kanuk
APPROVAL	
APPROVAL	
DATE / BY	REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26-400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

© 2021 Kichler Lighting LLC. All Rights Reserved.

SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID:2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



ALSO IN THIS FAMILY



Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH SCALE: 1"=80'-0" (0 40 80 160)

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	01/17/2022

LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Magaly Morales-Tejada

From: Jose Gonzalez <jgonzalez@procodeinc.net>
Sent: Thursday, May 5, 2022 11:56 AM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006
Attachments: 000-Referral-Distribution-Sheet LUP2022-0006 Building.pdf

No concerns.

Thank you

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton (COLORADO)
WWW.FORT_LUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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This email was sent outside of your organization

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas *distribution* facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

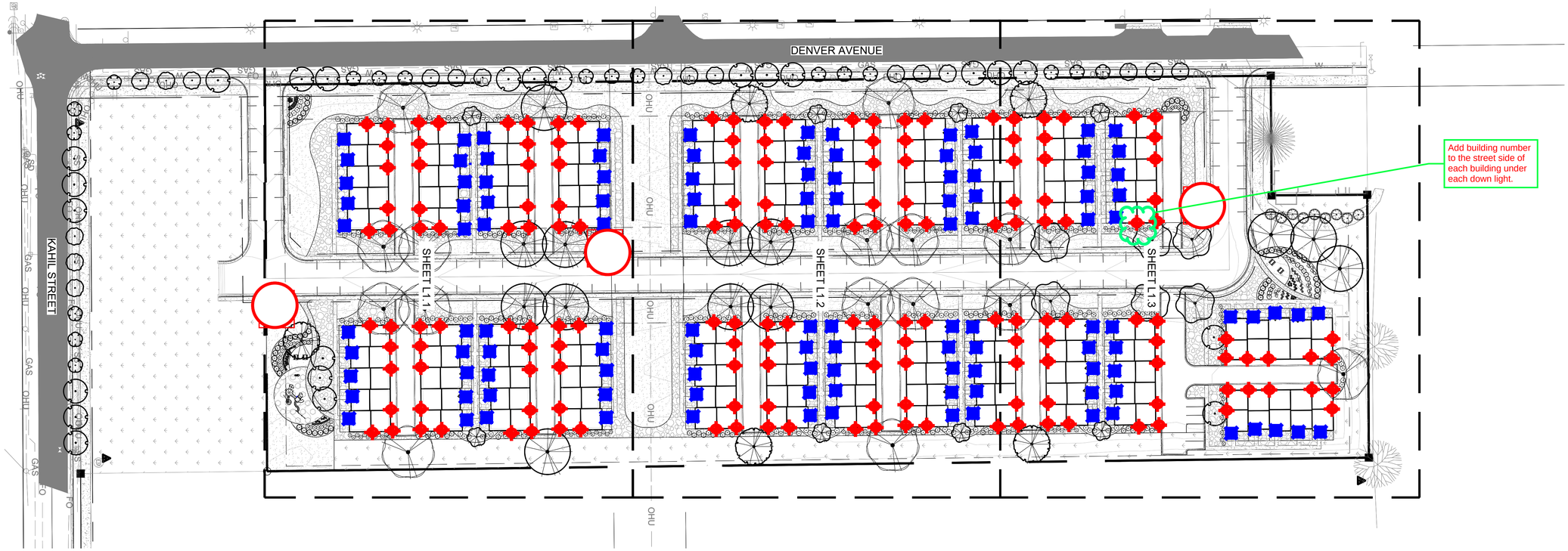
PSCo also has existing natural gas *distribution* facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

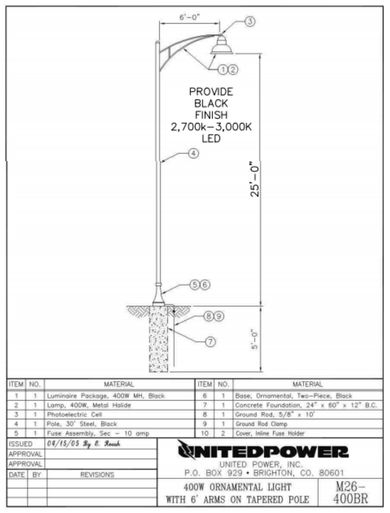
As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec – 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: B. Kmuk
APPROVAL	
APPROVAL	
DATE BY	REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26–400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

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SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



ALSO IN THIS FAMILY



Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH SCALE: 1"=80'-0" (0 40 80 160)

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	01/17/2022

LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 05/10/2022
Project name: Flats at Lupton Village
Project address: Kahil & Denver Ave., Fort Lupton, CO 80621
FLFPD Project # R2022-022
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **Flats at Lupton Village** located at **Kahil & Denver Ave,** Fort Lupton, CO 80621. The referral was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The plan review Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*
3. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 8 inches (101.6 mm) high.

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. ~~LUP2021-0029~~ & PLAN No. ~~SPL2021-0001~~ LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

DEDICATION

Know all men by these presents, that we, Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of the land described herein, have caused said land to be laid out and platted under the name of Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION and do hereby dedicate to the City of Fort Lupton and it's licensees for public use forever all streets, alleys and utility easements as indicated hereon, in compliance with the City of Fort Lupton Subdivision Regulations and by contractual agreement, the landowners shall bear all expenses involved in improvements.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

OWNER'S APPROVAL

Know All Men By These Presents, that Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of

the land described herein, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

ary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

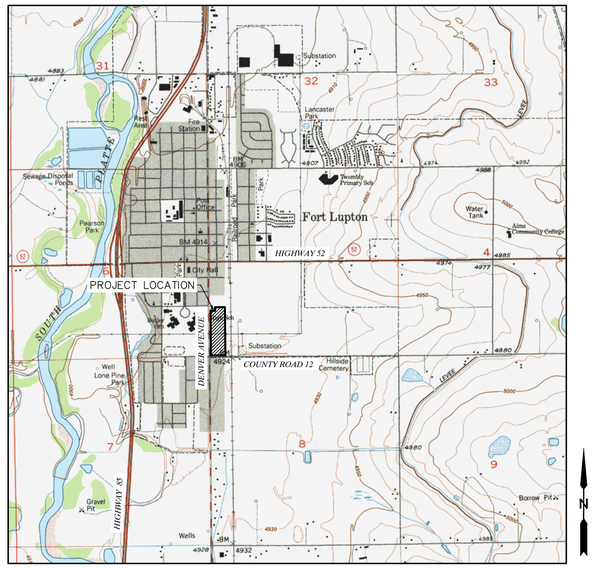
by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public



VICINITY MAP
SCALE – 1"=2000'

MAYOR'S CERTIFICATE

This is to certify that a plat of the above-described property was approved by Resolution No. 2022_____ of the City of Fort Lupton passed and adopted on the ____ day of _____ 20____ and that the Mayor of the City of Fort Lupton, as authorized by said resolution on behalf of the City of Fort Lupton, hereby acknowledges and adopts the said plat upon which this certificate is endorsed for all purposes indicated thereon.

_____
Mayor

Attest:

_____
City Clerk
(Seal)

CITY ADMINISTRATOR'S APPROVAL

Approved this _____day of _____, 20 _____.

_____
City Administrator

CITY WATER AND SEWER DEPARTMENT APPROVAL

Approved this _____day of _____, 20 _____.

_____
Director of Public Works

CITY ENGINEER'S APPROVAL

Approved this _____day of _____, 20 _____.

Accepted by: _____
City Engineer

DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1376.07 feet to the South line of the SW1/4 of said Section 5;
THENCE South 89°40'24" West along said South line a distance of 434.91 feet to the Southwest corner of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

SURVEYOR'S CERTIFICATE

I, Jason S. Allee, a duly registered land surveyor in the State of Colorado, do hereby certify that this Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION was performed by me or under my direct supervision, and that this Plat has been prepared in compliance with all applicable laws of the State of Colorado at the time of this survey and within my control, and is accurate to the best of my knowledge, information and belief.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S IMPROVEMENT CERTIFICATE

I hereby certify that, on the date shown, a field survey was conducted under my supervision of the above-described property, and that all building improvements, easements and rights-of-way in evidence or known to me are correctly shown on the above plat. I further certify that there are no encroachments by and/or on this property, unless otherwise noted.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

1. Total Surveyed Area: 12.15 Acres (±529,309 sq.ft.).

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Entire property is in Flood Zone X, areas of minimal flood hazard per FEMA Flood Map Number 08123C210E, effective on 01/20/2016. The referenced Federal Insurance Rate Map was not available for viewing. The FIRMette states the map is "Not Printed".

4. Current zoning is C-1 (General Commercial), per the City of Fort Lupton Interactive Zoning Map.

5. The 75' PSCO right-of-way easement is shown in the title commitment as being granted by an instrument recorded December 5, 1947 under Reception No. 1019613. the reception no. could not be found within the records of the Weld County Clerk and Recorder via the ICRIS self service document research system.

6. NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PROJECT CONTACTS:

DEVELOPER:
Lupton Village Land Developers, LLC
3780 W. 10th Street, Suite 200
Greeley, CO 80634
Ph: (970)702-2009
Andrew J. Gerk

ENGINEER:
LandOne Engineering LLC
361 71st Avenue
Greeley, CO 80634
Ph: (970)443-2311
Jeremy Goetsch, PE

SURVEYOR:
Lat40°, Inc.
6250 W. 10th Street, Unit 2
Greeley, CO 80634
Ph: (970)515-5294
Jason Allee, PLS

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

1
SHEET 1 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

0 30 60 90
SCALE – 1"=30'

SOUTH QUARTER CORNER
SECTION 5, T.1N., R.66W.
FOUND #6 REBAR WITH 2.5"
 illegible ALUMINUM CAP
1.0' BELOW ROAD SURFACE

FOUND #6 REBAR

UNION PACIFIC RAILROAD
(400' Right-of-Way)

400'

S 00°42'16" E 1376.07'

1151.07'

75.00'

362.04'

182.50'

30.00'

12.50'

N 28°21'04" W
86.35'

S 00°30'45" E 491.00'

S 00°30'45" E 77.36'

S 00°30'45" E 276.00'

LOT 41 ±1,174 sq.ft.	LOT 40 ±1,181 sq.ft.	LOT 39 ±1,181 sq.ft.	LOT 38 ±1,181 sq.ft.	LOT 37 ±1,174 sq.ft.	LOT 36 ±1,174 sq.ft.	LOT 35 ±1,181 sq.ft.	LOT 34 ±1,181 sq.ft.	LOT 33 ±1,181 sq.ft.	LOT 32 ±1,174 sq.ft.	LOT 31 ±1,174 sq.ft.	LOT 30 ±1,181 sq.ft.	LOT 29 ±1,181 sq.ft.	LOT 28 ±1,181 sq.ft.	LOT 27 ±1,174 sq.ft.	LOT 26 ±1,174 sq.ft.	LOT 25 ±1,181 sq.ft.	LOT 24 ±1,181 sq.ft.	LOT 23 ±1,181 sq.ft.	LOT 22 ±1,174 sq.ft.	LOT 21 ±1,174 sq.ft.	LOT 20 ±1,181 sq.ft.	LOT 19 ±1,181 sq.ft.	LOT 18 ±1,181 sq.ft.	LOT 17 ±1,174 sq.ft.
LOT 16 ±1,174 sq.ft.	LOT 15 ±1,181 sq.ft.	LOT 14 ±1,181 sq.ft.	LOT 13 ±1,181 sq.ft.	LOT 12 ±1,174 sq.ft.	LOT 11 ±1,174 sq.ft.	LOT 10 ±1,181 sq.ft.	LOT 9 ±1,181 sq.ft.	LOT 8 ±1,181 sq.ft.	LOT 7 ±1,174 sq.ft.	LOT 6 ±1,174 sq.ft.	LOT 5 ±1,181 sq.ft.	LOT 4 ±1,181 sq.ft.	LOT 3 ±1,181 sq.ft.	LOT 2 ±1,174 sq.ft.										

8.00'

5' UTILITY EASEMENT

N 00°30'45" W 491.00'

-OUTLOT A-
3.19 Acres
(±138,840 sq.ft.)
UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

S 89°29'15" W 111.17'

N 89°29'15" E 111.17'

S 89°29'15" W 111.17'

N 89°29'15" E 176.49'

N 00°30'45" W 284.00'

75' PSCO RIGHT-OF-WAY EASEMENT
NOTED IN RECEPTION No. 2453889,
RECORDED NOVEMBER 16, 1998

963.54'

S 00°30'45" E 987.80'

24.26'

-LOT 1-
1.52 Acres
(±66,238 sq.ft.)

392.27'

~~LUPTON CIRCLE~~
(50' Right-of-Way)
1.60 Acres (±69,622 sq.ft.)

This will need to be re-named and will need a "South" directional prefix

S 89°40'24" W 404.81'

434.91'

BASIS OF BEARINGS: N 89°40'24" E 2631.31'

COUNTY ROAD 12
(60' Right-of-Way)

Updated
Parcel 1470364000027
School District No. RE-8

30'

30'

N 00°30'45" W 919.78'

N 44°29'15" E
22.46'

-OUTLOT B-
2.13 Acres
(±92,728 sq.ft.)

UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

S 00°30'45" E 284.00'

S 00°30'45" E 494.00'

LOT 83 ±1,174 sq.ft.	LOT 84 ±1,181 sq.ft.	LOT 85 ±1,181 sq.ft.	LOT 86 ±1,181 sq.ft.	LOT 87 ±1,174 sq.ft.	LOT 88 ±1,174 sq.ft.	LOT 89 ±1,181 sq.ft.	LOT 90 ±1,181 sq.ft.	LOT 91 ±1,181 sq.ft.	LOT 92 ±1,174 sq.ft.	LOT 93 ±1,174 sq.ft.	LOT 94 ±1,181 sq.ft.	LOT 95 ±1,181 sq.ft.	LOT 96 ±1,181 sq.ft.	LOT 97 ±1,174 sq.ft.	LOT 98 ±1,174 sq.ft.	LOT 99 ±1,181 sq.ft.	LOT 100 ±1,181 sq.ft.	LOT 101 ±1,181 sq.ft.	LOT 102 ±1,174 sq.ft.	LOT 103 ±1,174 sq.ft.	LOT 104 ±1,181 sq.ft.	LOT 105 ±1,181 sq.ft.	LOT 106 ±1,181 sq.ft.	LOT 107 ±1,174 sq.ft.
LOT 108 ±1,174 sq.ft.	LOT 109 ±1,181 sq.ft.	LOT 110 ±1,181 sq.ft.	LOT 111 ±1,181 sq.ft.	LOT 112 ±1,174 sq.ft.	LOT 113 ±1,174 sq.ft.	LOT 114 ±1,181 sq.ft.	LOT 115 ±1,181 sq.ft.	LOT 116 ±1,181 sq.ft.	LOT 117 ±1,174 sq.ft.	LOT 118 ±1,174 sq.ft.	LOT 119 ±1,181 sq.ft.	LOT 120 ±1,181 sq.ft.	LOT 121 ±1,181 sq.ft.	LOT 122 ±1,174 sq.ft.										

8.00'

N 00°30'45" W 494.00'

-OUTLOT B-

S 89°29'15" W 111.17'

N 89°29'15" E 111.17'

S 89°29'15" W 111.17'

N 89°29'15" E 147.17'

N 00°30'45" W 284.00'

N 44°29'15" E
57.84'

12.5' OF ADDITIONAL RIGHT OF WAY
(DEDICATED BY THIS PLAT)
0.47 Acres (±20,477 sq.ft.)

S 89°29'15" W 215.17'

880.78'

50.00'

157.54'

555.14'

N 00°30'45" W 1245.88'

30'

30'

1275.86'

N 00°30'45" W 2649.50'

~~DENVER AVENUE~~
(60' Right-of-Way)

S Denver Avenue

POINT OF BEGINNING
SOUTHWEST CORNER
SECTION 5, T.1N., R.66W.
FOUND BENT #6 REBAR
1.0' BELOW ROAD SURFACE
TO BE UPGRADED

Updated
Parcel 1470364000027
School District No. RE-8

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

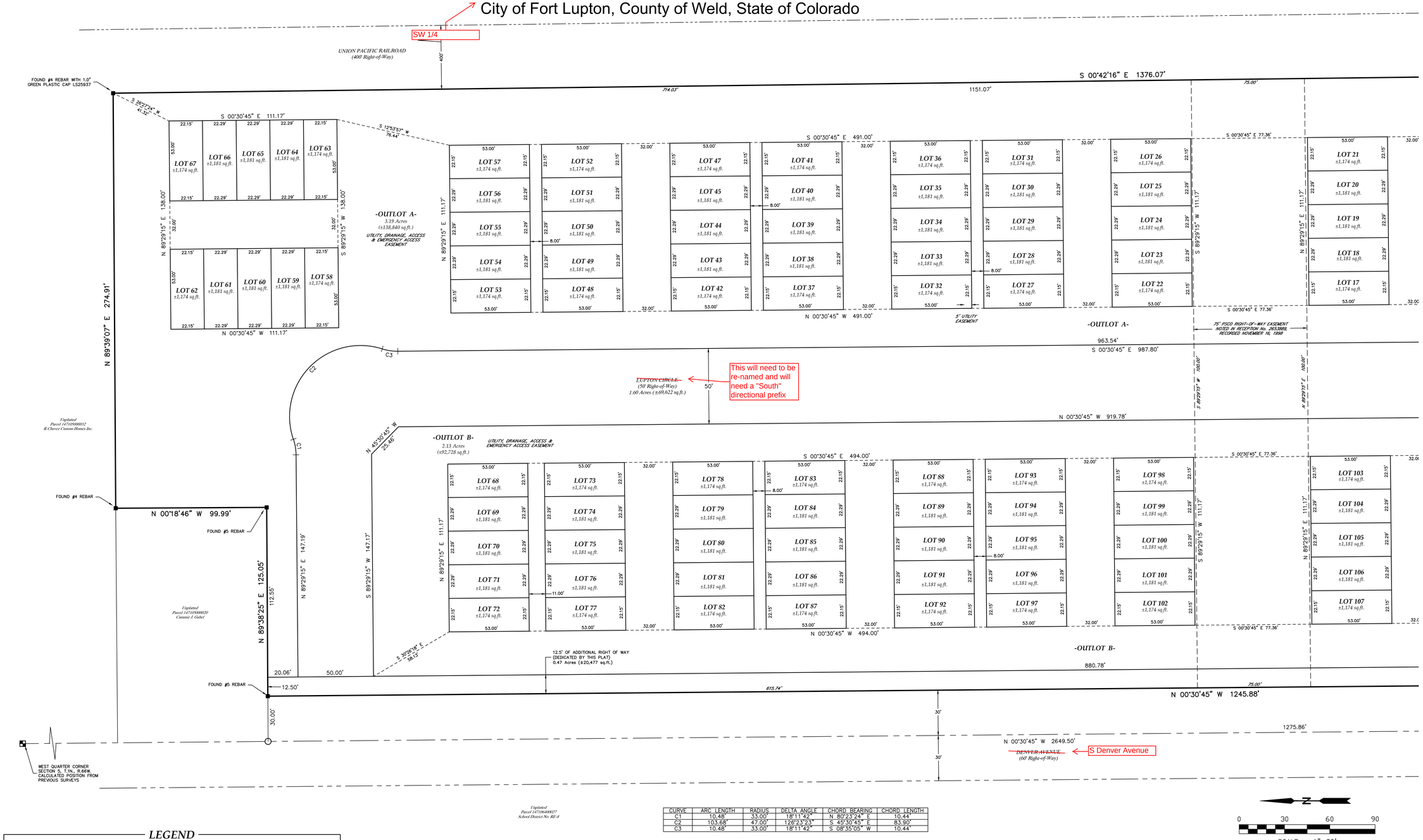
PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado

SW 1/4



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'23"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

0 30 60 90

SCALE – 1"=30'

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3

SHEET 3 OF 3

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, May 25, 2022 3:21 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Friday, May 6, 2022 9:52 AM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

External Message - Please be cautious when replying or opening links or attachments in this email

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a special use permit being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/664.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 27, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!



Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 2, 2022 1:51 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006

No law enforcement issues.

Chief John Fryar

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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CITY OF
Fort Lupton
EST 1836

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Jeremy Goetsch (Land One)

From: Roy Vestal

Date: May 24, 2022

Subject: Flats at Lupton Village LUP2022-0006
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Final Plat submittal. Be advised, review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Plat**
   a. Reservation of well pad site is required in the southeast corner of Lot 1.
   b. We will find the document and provide.
   c. Notes documenting "Private" infrastructure and maintenance responsibility will need to be added.

2. **Drainage**
   a. Drainage Analysis as submitted is acceptable.
   b. If the internal streets are accepted as public ROW, the HDPE may not be used for storm sewer. *Construction Standards - Section 5.44.01* - Only RCP for storm sewers is allowed in public ROW. *Drainage Criteria Manual Chapter 8 - "HDPE pipe is only permitted in privately owned and maintained installations."*

3. **Transportation**
   a. Additional ROW dedications are acceptable.

4. **Landscape / Grading** - *Chapter 2 Design Standards*
   a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
   b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

5. **Utilities**
    a. **Water - Chapter 3**
        i. City water main is located in S Denver Avenue.
        ii. Sheet 8 - Shows potable line connecting to the nonpotable water main.
        iii. **3.18.04 Sanitary Sewer Line Crossing Over A Waterline** *In all cases, regardless of vertical clearance, the sanitary sewer shall be encased in concrete a minimum of nine feet on each side of the centerline of the crossing or polyvinyl chloride pressure pipe in accordance with American Water Works Association C900, pressure class 305 psi may be used*. Sheets C9.1 and C9.2 - Designate sanitary sewer line at water line crossings as C900 pipe one solid stick of pipe centered on crossing.
        iv. Sheet C9.3 - 2" water service crossing shows as 15-feet deep?

    b. **Non Potable Irrigation**
        i. Landscape plans need to indicate intended irrigation plans. Overall Utility plan should show intended meter location and size.

    c. **Sanitary Sewer - Chapter 4**
        i. The hydraulic analysis needs to include downstream capacity analysis to determine effects on the existing system.
        ii. The City's sanitary sewer main does not extend east in Kahil. The manhole located at the corner of S Denver and Kahil is only stubbed out about 2-feet.
        iii. Sheet C9.2 - Show existing water main crossings in profile.
        iv. Sheet C9.1 and C9.2 - label invert out of existing manholes.
        v. ***4.14.01 General*** *- The minimum diameter for sanitary sewer mains shall be 8 inches*. Sheet C9.3 - If the pipe from SSMH8 to CO 10 is intended to be City maintained, it must be 8-inches and end in a manhole instead of a clean out. It is acceptable to leave as is, and it is considered a service line, which the City does not maintain.

    d. **Storm Sewer - Chapter 5**
        i. Sheet C13.4 - The existing storm drain in Kahil is not accurately depicted. The inlets on the south side cross Kahil and connect to the storm sewer along the north side. Sheet C8.0 correctly shows the existing storm sewer along Kahil.
        ii.

    e. **Roadway - Chapter 6**
        i. Ramp and cross walks required at Kahil and S Denver (E-W and N-S).

ii. Can S Denver have a consistent 2% cross slope? Provide centerline profile design with the 0.3% slope (seems like a close match to existing.
iii. The internal streets do meet the cross section requirements of public ROW, however, prior precedent has established these developments as being private streets. Planning Commission and City Council will have to accept as public ROW.
iv. *Section 6.33.00* A Pavement Design Report is required prior to roadway paving. City preferred pavement section is a composite section of asphalt surface with Class VI base.
v. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The northern most tree at the north drive access may be an issue. The 2 trees on each side of the southern access appear to be problematic.

f. Traffic Control - Chapter 8

i. The Traffic Study as submitted is acceptable.

6. **Public Improvement Agreement** – A Subdivision Improvements Agreement will be required for the construction of roadways, water, sewer and nonpotable water systems. See attached template.

7. A Geotechnical report for final pavement design will be required prior to paving.

There may be additional concerns as this design develops.

May 20, 2022

City of Fort Lupton
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: LUP-2022-0006 – Flats at Lupton Village

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Flats at Lupton Village. After review of the information, we have the following comments:

- It was unclear where it is intended to install electric. United Power requires continuous dry utility easements for reliable electric facility installation. This allows us to install electric facilities in a continuous manner for our loop feed which provides reliability.

  We prefer the separation of gas and electric. Typically, with electric in the rear of the subdivision lots. We will need 8' to 10' wide dry utility easements in the rear of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts.

  If gas and electric will be sharing an easement, we will need a 10' to 15' wide dry utility easements in the front of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts as well.

- Easements utilized by United Power cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

- **Tracts/Open Space/Parks** – United Power prefers dedicated blanket utility easement use within tracts as this gives us the opportunity to set above ground equipment, coordinated with the developer, and limit the impact to home lots. If Blanket utility easement(s) cannot be given, we will need a 10' to 12' wide dry utility easements along the perimeter of all tracts, along perimeter of tracts abutting roads, and through tracts between lots.

- **Streetlights** – When streetlight locations are identified in a subdivision, we need a 5' wide dry utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc. Please note, if we do not get these through the platting process, we will have to get individual ones during the design which will slow United Power's ability to start construction significantly.

- **Landscaping within a Utility Easement** - When landscaping in utility easements, please keep in mind that we can only have shallow rooting vegetation such as small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines. The trunk/base of the tree(s) should be minimum of 5’ away from the underground electric line with no trees planted under overhead lines. Any landscaping should be a minimum clearance distance of 15’ from the front and both sides of equipment such as transformers, and cabinets, etc. and five feet from the back to allow a backhoe if needed.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas *distribution* facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

PSCo also has existing natural gas *distribution* facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a change of zone to the PUD zone district known as the Flats at Lupton Village Change of Zone, located east and adjacent to South Denver Avenue and north and adjacent to County Road 12 within the City of Fort Lupton, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:
BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET

Legal Notice No. FLP633
First Publication: May 12, 2022
Last Publication: May 19, 2022
Publisher: Fort Lupton Press

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Sign Posting Affidavit
Flats at Lupton Village Preliminary & Final PUD
Project No. LUP2022-0006;
Plan Nos. PPL2022-0001; FPL2022-0001 & COZ2022-003



Facing S DENVER AVE



Facing WCR 12

I, MITCHELL NELSON hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 25 day of MAY, 2022.

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Mitchell Nelson, this 25 day of May, 2022. Witness my hand and seal.

My commission expires 6/17/2023.

Notary Public

MELISSA WHEELER
Notary Public
State of Colorado
Notary ID # 20194022905
My Commission Expires 06-17-2023

(SEAL)

Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 24th day of May, 2022, a true and correct copy of the foregoing Notice of Public Hearings for the Flats at Lupton Village Change of Zone was sent via United States Mail, postage pre-paid, to the following addresses:

GABEL CAMMIE J
6192 SAGE AVE
FIRESTONE, CO 80504

FORT LUPTON COMMERCIAL
1540 MAIN ST
STE 218/303
WINDSOR, CO 80550

TERRY PATRICIA L TRUST
1312 DENVER AVE
FORT LUPTON, CO 80621

R CHAVEZ CUSTOM HOMES INC
14374 COUNTY ROAD 10
FORT LUPTON, CO 80621

SCHOOL DISTRICT NO. RE-8
301 REYNOLDS ST.
FORT LUPTON, CO 80621

PUBLIC SERVICE CO OF COLO
TAX SERVICE DEPARTMENT
PO BOX 1979
DENVER, CO 80201

City Official

City Council Meeting
Date: July 5, 2022
Staff: Maria Lancto – Planner I

AM 2022-108
Consent Agenda☐
Action Memorandum☐
Public Hearing☒

SUBJECT FOR DISCUSSION

A Resolution Approving a Preliminary Plat and PUD Plan, Known as The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan for the City Council's Consideration. A Public Hearing for This Application was Held on June 23, 2022, and Planning Commission Recommended Approval to City Council of the Preliminary Plat and PUD Plan.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

Baessler Development Group, has applied for approval of a Preliminary Plat and PUD Plan, known as The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan for the City Council's Consideration. The site that is the subject of the Preliminary Plat and PUD Plan is located at the northeast corner of S Denver Avenue and County Road 12 (the Property). The proposed Preliminary Plat and PUD Plan are for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trail network. The subdivision is 13.315 acres, more or less.

The applicant submitted a concurrent rezoning request to PUD Planned Unit Development for this property that was reviewed by City Council at a separate public hearing. A Final Plat and Final PUD Plan has also been submitted or concurrent review.

Pursuant to the Municipal Code, prior to a PUD preliminary plat for a proposed subdivision, a sketch plat must be approved by City Council. The City Council approved the Flats at Lupton Village PUD Sketch Plat (Resolution No. 2021R081) on December 21, 2021.

FINANCIAL CONSIDERATIONS

The Applicant has paid all applicable land use application fees and is covering ongoing review expenses.

LEGAL/POLITICAL CONSIDERATIONS

All notification requirements were met, including posting notice of the hearings on the property at least 15 days prior to this public hearing, mailing notice to property owners within 500 feet of the property, and publishing notice of the hearing at least fifteen days prior to the hearing.

ALTERNATIVES/OPTIONS

The City Council has the following four options for each request:

a) Approve the proposed resolution.
b) Approve the proposed resolution with conditions.
c) Continue the hearing for additional information or further study.
d) Deny the proposed resolution.

STAFF RECOMMENDATIONS

Staff recommends conditional approval of The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan.

Attachments: a. Proposed Resolution

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

b. Planning Commission Resolution
c. Planning Commission Minutes
d. Staff Report
e. Land Use Application
f. Project Description
g. Preliminary Plat and PUD Plan
h. Final Plat (for reference)
i. Construction Documents
j. Drainage Analysis
k. Traffic Impact Study
l. Hydraulic Report
m. Water Dedication Letter
n. Referral Responses
o. Legal Notifications

RESOLUTION NO. 2022Rxxx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE FLATS AT LUPTON VILLAGE PUD PRELIMINARY PLAT AND PUD PLAN FOR A MIXED-USE SUBDIVISION LOCATED IN PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing The Flats at Lupton Village PUD Preliminary Plat and PUD Plan; and

WHEREAS, The Flats at Lupton Village PUD Preliminary Plat and PUD Plan proposes to develop a property for a mixed-use subdivision with 120 single-family attached residential lots and 1 general commercial lot; and

WHEREAS, after review of the application for The Flats at Lupton Village PUD Preliminary Plat and PUD Plan, and consideration of staff comments, applicant's presentation, and any public input, the Planning Commission recommended approval of The Flats at Lupton Village Preliminary Plat and PUD Plan; and

WHEREAS, all legal requirements for the public hearing have been met, including mailing of public hearing notices to adjacent property owners within 500 feet; and

NOW THEREFORE BE IT RESOLVED, that the Fort Lupton City Council reviewed the plans and supporting documentation, all referral comments and any citizen input in response to this application. Based upon review of the applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Subdivision and Zoning Regulations, an analysis of referral comments and facts presented on this date, the City Council hereby recommends approval of The Flats at Lupton Village PUD Preliminary Plat and PUD Plan located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to finalizing the PUD Preliminary Plat:

A. The title of the Preliminary Plat shall include the Project No.: LUP2022-0006 & Plan No.: PPL2022-0001

B. Any redline comments provided by City staff shall be made to the Preliminary Plat and Preliminary PUD Plan.

C. The Applicant shall work with City staff to finalize the street names within the development.

II. As part of the Final Plat Application:

A. The Applicant shall address the comments from Public Service Company of Colorado dba Xcel Energy.

B. The Applicant shall address the comments from the Fort Lupton Fire Protection District.

C. Applicant shall adequately address the comments from United Power.

D. Applicant shall adequately address the comments from the Public Works Director.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO THIS 5TH DAY OF JULY, 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RESOLUTION NO. P2022-013

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF THE FLATS AT LUPTON VILLAGE PUD PRELIMINARY PLAT AND PRELIMINARY PUD PLAN FOR A MULTI-USE SUBDIVISION LOCATED IN PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan; and

WHEREAS, The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan proposes to develop a property for a mixed-use subdivision with 120 single-family attached residential lots and 1 general commercial lot; and

WHEREAS, after review of the application for The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan, and consideration of staff comments, applicant's presentation, and any public input, the Planning Commission finds the request for The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan conforms with City codes, and requirements and policies therein; and

WHEREAS, all legal requirements for the public hearing have been met, including mailing of public hearing notices to adjacent property owners within 500 feet; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has considered the application and has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to finalizing the PUD Preliminary Plat:

A. The title of the Preliminary Plat shall include the Project No.: LUP2022-0006 & Plan No.: PPL2022-0001

B. Any redline comments provided by City staff shall be made to the Preliminary Plat and Preliminary PUD Plan.

C. The Applicant shall work with City staff to finalize the street names within the development.

II. As part of the Final Plat Application:

A. The Applicant shall address the comments from Public Service Company of Colorado dba Xcel Energy.

B. The Applicant shall address the comments from the Fort Lupton Fire Protection District.

C. Applicant shall adequately address the comments from United Power.

D. Applicant shall adequately address the comments from the Public Works Director.

DONE THIS 23rd DAY OF JUNE, 2022 BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

Chairman

ATTEST:

Planning Director

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

THE FLATS AT LUPTON VILLAGE PUD PRELIMINARY PLAT & PUD PLAN STAFF REPORT
LUP2022-0006 & PLAN NO. PPL2022-0001

PROJECT DESCRIPTION

Project No.: LUP2022-0006 / Plan No. PPL2022-0001

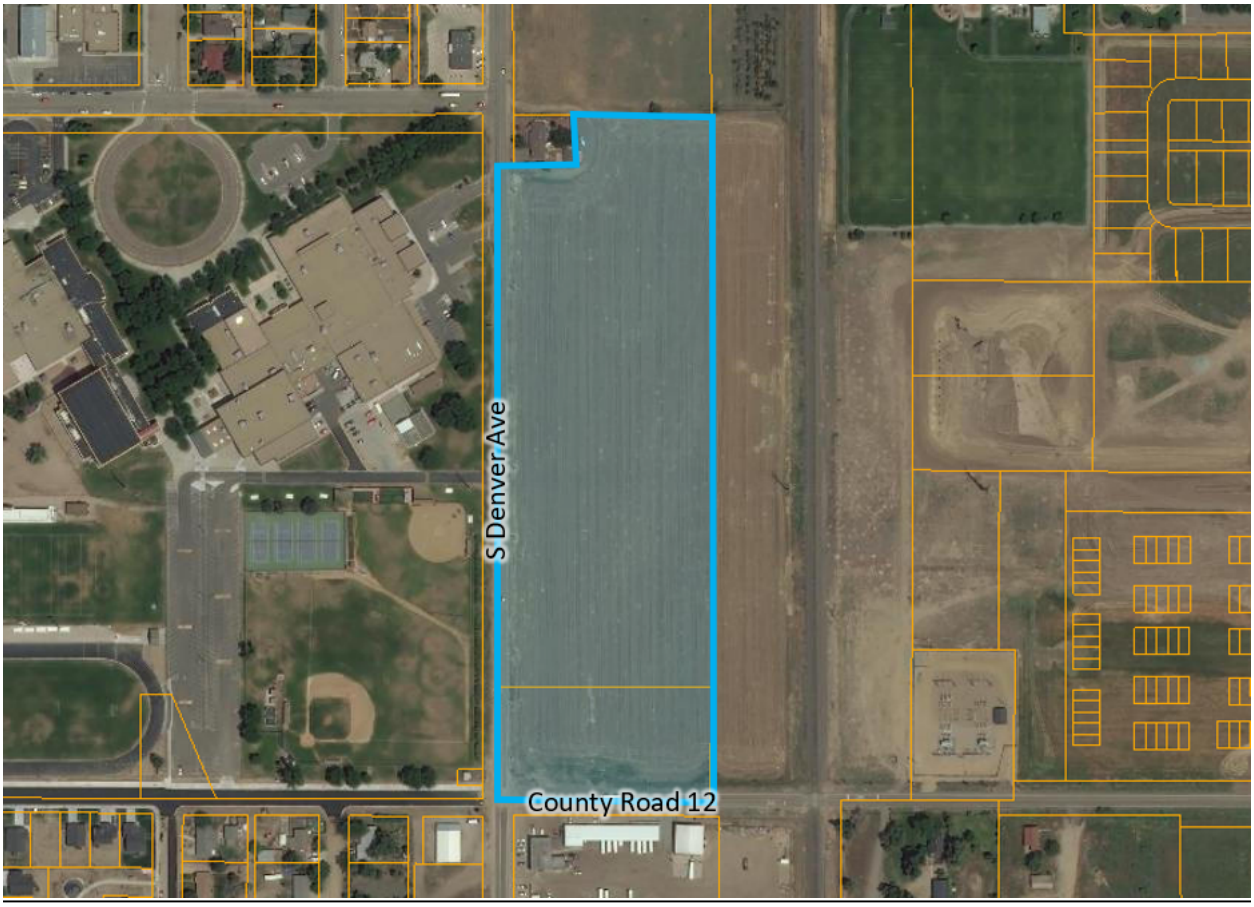
Project Name: The Flats at Lupton Village PUD Preliminary Plat and PUD Plan

Owner's Name: Fort Lupton Commercial General Partnership

Representative: Mitchell Nelson with Baessler Development Group ("Applicant")

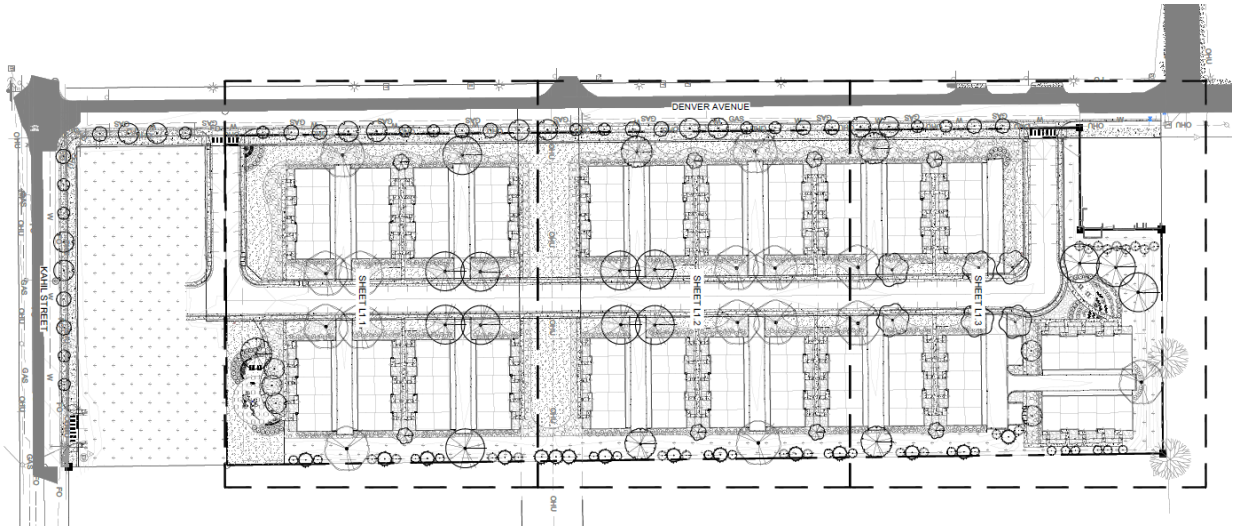
Location of Request:

The site is located at the northeast corner of S Denver Avenue and County Road 12 (the Property). The Property is located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Nature of Request:

The Applicant has submitted a request for a preliminary plat and PUD plan for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. A Final Plat and PUD plan has also been submitted and is being reviewed with this application. Rezoning to the PUD zone district has also been requested.



Site Size: 13.315 acres, more or less.

Zone District: 'PUD' Planned Unit Development (if the proposed concurrent request for a change of zone from the C-1 General Commercial and R-O Residential and Office Zone Districts is approved by Planning Commission and City Council).

Proposed Use: A mixed use subdivision to include C-1 commercial and single-family attached residential lots with associated landscaping, infrastructure, and drainage.

Existing Use: Vacant/Agricultural

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions, as shown on the proposed resolution.

SUMMARY OF PREVIOUS APPLICATIONS

A Sketch Plat and Sketch PUD Plan was reviewed and approved by City Council on December 21, 2021.

APPLICATION PROCESS

The Applicant is requesting approval of a preliminary plat and PUD plan. PUD development plan applications are to be processed in the same manner as set forth in the Code for major subdivisions. The Applicant is applying for concurrent approval of the PUD Development Plan, Preliminary Plat and Final Plat, as permitted under Section 17-22(a)(4) of the Subdivision Regulations.

Under the Fort Lupton Municipal Code, after required public notice of the preliminary plat and PUD plan, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the preliminary plat. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The Applicant has submitted their preliminary plat and final plat concurrently, as permitted by the Municipal Code. A final plat is not reviewed by Planning Commission under the Municipal Code; however, the final plat map has been included in the Planning Commission packet for reference.

The City Council shall then conduct a public hearing and evaluate the preliminary PUD plat and final PUD plat, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve, conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Subdivision Regulations require published notice of the hearings in a timely manner prior to the hearings. The Planning Commission and City Council hearings were published in the Fort Lupton press on May 19, 2022.

Notice of the public hearings were posted on the Property pursuant to the Subdivision Regulations, which require the Applicant post the Property with notice of the hearings at least fifteen (15) days prior to the hearings.

Notice was mailed to neighbors within five-hundred (500) feet of the Property on May 25, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

Section 16-45 – PUD Planned Unit Development District

a) The Planned Unit Development (PUD) Provisions contained herein are intended to provide for the planning and development of substantial tracts of land, suitable in location and character for the uses proposed, as unified and integrated entities in accordance with detailed development plans.

   The proposed project is for a mixed-use subdivision which will include single family attached residential lots and a commercial lot with C-1 land uses. The composition of the subdivision is intended to create a cohesive feel between this property and the Lupton Village subdivision located east and across the rail road tracks. The PUD zoning allows for the commercial and residential to be planned together, and allows the developer to mimic the zoning parameters that are in place in the Lupton Village subdivision. Staff believes this plan meets the intent of Section 16-45(a).

b) Development within PUD Districts shall require specific approval of the Planning Commission and the City Council as amendments to the "Official Zoning Map" and approval of PUD plans which comply with the requirements and standards set forth in this Chapter and after the requirements of notice and hearing as set forth in this Chapter.

A concurrent application for a change of zone has been submitted for Planning Commission and City Council approval. PUD plans have been submitted for review and approval.

c) PUD plan.

(1) PUD permit requirements. All development within a PUD District must be in accordance with an approved PUD plan. No building or development permits shall be issued within a PUD District unless they are in conformance with an approved PUD plan for that District. Small wind energy systems are permitted uses in PUDs, provided that they meet the qualifications and criteria for a building permit set forth in Section 18-9 of this Code and are approved as part of the PUD approval process.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet.

(2) PUD plan format and content, general. In accordance with this Section, PUD plans shall contain unique district regulations that apply to specific parcels of land within a PUD District, including permitted and special uses, lot sizes, bulk, density, general layout, architectural guidelines and location of and standards for public facilities and amenities, and any design standards that vary from the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements. Unless specifically modified by a PUD plan, all provisions of the City's Code and adopted standards and specifications shall apply within PUD Districts. PUD plans shall be in the same general format as required for subdivision plats.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet. Unless specifically modified by the PUD plan, the subdivision will adhere to all provisions of the City Code.

(3) PUD plan process, general. All PUD plan applications shall be submitted and processed simultaneously with the subdivision applications for the property. PUD plan and subdivision applications may also be processed concurrently with the proposed amendment to the Official Zoning Map, creating a PUD District. Except as specifically provided in this Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major subdivisions, including all pre-application conferences, sketch PUD plan, preliminary PUD plan and final PUD plan applications, public hearings and recording with the County Clerk and Recorder.

These requirements have been met. The City has a general land use application, which includes the submittal for a PUD plan and subdivision application. The change of zone application was also submitted concurrently with the PUD plan and subdivision documents.

(4) Maintenance of private facilities. The owner shall establish an organization for the ownership and maintenance of any approved private streets and/or common open space areas unless

other adequate arrangements for the ownership and maintenance thereof are provided in a manner acceptable to the City.

The applicant is working with the City to finalize the Subdivision Improvement Agreement. Private utilities will be maintained by a metro district.

(5) PUD size. Unless specifically waived by the City Council, the area included in a PUD plan must be at least ten (10) acres in size.

This development is 13.315 acres in size, more or less.

(6) Approval. Approval of a final PUD plan by the City Council shall be by ordinance.

This project will be presented before City Council for approval on June 20, 2022. The change of zone to the PUD Zone District will go separately before the City Council for approval by Ordinance.

d) Intent. PUD provisions are intended to further the following objectives:

(1) To permit and encourage innovative design and high quality, master-planned urban developments on large parcels of land.

(2) To permit greater flexibility in the application of zoning and development standards and greater freedom in providing a mix of land uses in the development of a balanced community.

(3) To preserve critical environmental resources, provide above-average open space and recreational amenities, include exceptional design and provide greater efficiency in the layout and provision of roads, utilities and other infrastructure.

(4) To provide flexibility in land planning and development, resulting in amenable relationships between buildings and ancillary uses, and permitting more intensive use of land where well-related open space and recreational facilities are integrated into overall design.

(5) To encourage unity and diversity in land development, resulting in convenient and harmonious groupings of uses, structures and common facilities, varied type design and layout of housing and other buildings and appropriate relationships of open spaces to intended uses and structures.

(6) To encourage unified and planned development of a site, with or without customary subdivision into single lots, and without specific application of the district regulations as provided for individual lots, subject to the regulations set forth herein.

(7) To provide for and encourage the preservation and enhancement of desirable natural landscape and other features unique to a development site.

(8) To provide reasonable standards and criteria by which the specific proposals for a PUD can be evaluated.

(9) To provide a procedure which can relate the design and layout of unified residential, commercial or industrial developments to the particular site and demand for such development in a manner consistent with the preservation of property values within established residential areas.

With respect to Section 16-45(d)(1)-(9) above, staff finds that the proposed PUD Plan and Preliminary and Final Plats substantively meet the intent of this subsection. The development of a mixed use subdivision under PUD zoning may provide more cohesion between the different land use types. The proposed PUD promotes unity and diversity in uses that would be otherwise difficult with straight zoning and provides greater cohesion between this development and the Lupton Village subdivision located to the east.

Deviations from the City Code are outlined on the PUD Plan.

e) General location and planning requirements.

(1) Relation to major transportation system. PUD districts shall be located with respect to major streets and highways or other transportation facilities to be directly accessible without creating traffic on minor streets in residential areas outside such district.

The subdivision will be accessed from South Denver Avenue. This subdivision will also include the addition of an internal road to access each of the residential lots and the commercial lot. City Council can choose to accept this internal road as public right-of-way.

(2) Relation to public utilities and community facilities. PUD districts shall be located in relation to public utilities and community facilities and services, either existing or to be available by the time development reaches the stage where they will be required, so that such facilities can be provided at reasonable cost and with reasonable efficiency.

Potable and non-potable water will be supplied by the City. Sanitary sewer will be supplied by the City. The developer is working with private utility providers for other utility requirements. Staff finds that the development meets this objective.

(3) Relation to general pattern of urban development. PUD districts shall be planned and located in general compliance with the Comprehensive Plan and shall relate to the major elements of the urban pattern, including housing, commercial facilities and principal places of employment, by physical proximity of major streets so as to provide for the convenience and amenity of residents of the community and to reduce general traffic congestion by a close relationship between origins and destinations.

The Future Land Use Map designates this parcel for Single-Family Detached Residential land uses, however the entire Lupton Village Area includes Single-Family Residential, Multi-Family, and General Commercial Land Uses. While not a part of the Lupton Village Subdivisioin, this application will contribute to the Lupton Village community as a whole, therefore it is staff's opinion that the proposal meets the intent of the Comprehensive Plan.

f) Physical character of the site. The site shall be suitable for the development proposed without hazards to structures, occupants or any property from probability of flooding on the site or on adjacent lands, from erosion or deposition of eroded material on adjacent lands, from subsidence of the soils or from other dangerous conditions. Soil, groundwater level, drainage and topography shall be appropriate to both the kind and pattern of use intended.

The project is not located within a floodplain. The Applicant accounted for drainage as shown on the plat. A soils report was submitted with the application materials and is available for review.

g) Site planning; external relationships.

(1) Vehicular access. Entrances and exits for vehicles shall be designed to encourage smooth traffic flow with minimum hazards to passing traffic or to traffic entering or leaving the development. Merging or turnout lanes may be required where anticipated traffic flows from or to the PUD indicate the need for such lanes. In no case shall streets within a PUD district connect to streets outside the district in such a way as to encourage use of any minor streets for through traffic.

An interior road will be constructed to create access to each lot.

A traffic impact study was submitted with the application materials for review by the City Engineer, Fire District, and Planning staff. Staff finds that the layout proposed meets the intent of this subsection.

(2) Perimeter setback and screening. If topographical or other barriers do not provide adequate buffer between the PUD and adjacent uses, structures on the perimeter of the PUD shall be set back a distance equal to the minimum setback requirement of the adjoining district, or shall be permanently screened by fences, walls or plantings as required to sufficiently protect the privacy and amenity of adjacent uses, to protect the planned development from potentially adverse external influences such as a major street or highway and, as necessary, to make transition from adjoining district.

The applicant has submitted a landscape plan and worked with staff to ensure adequate landscaping particularly on South Denver Avenue and as a butter between the rail road tracks and the homes.

When the commercial lot is developed, a site plan application will be required, and onsite landscaping will be reviewed as part of that application.

h) Modifications of subdivision regulations.

(1) The improvements required under the subdivision regulations, including streets, storm drainage, sanitary sewerage and potable water systems, shall be provided in each PUD.

The Applicant is working with the City Engineer to finalize a subdivision improvements agreement prior to construction. This agreement will go before City Council for approval.

A final drainage report is provided in this packet.

(2) The requirements and standards for the construction of streets and utilities set forth in the City of Fort Lupton Standards and Specifications for the Design and Construction of Public

Improvements shall be subject to modification where the plan and program for a PUD make adequate provision for vehicular and pedestrian access and circulation, recreation, utility and service needs of the tract when fully developed and occupied, and also provide such covenants, easements or other legal documents and provisions as will assure conformity to and successful implementation of the plan. Such modifications shall be contained within the PUD plan, subject to approval by the City Council.

The Applicant is working with the City Engineer to finalize these improvements prior to construction.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings/Grounds Manager	Building Inspector	City Attorney
Recreation Manager	GIS Specialist	Police Chief
Public Works Director	Golf Course Manager	Fort Lupton Fire Protection District
CDOT	United Power	Comcast
CenturyLink	Xcel Energy	Weld County GIS
Weld County School District RE-8	NCWCD	Fulton Ditch Company

STAFF RECOMMENDATION

Staff recommends conditional approval of the Flats at Lupton Village PUD Preliminary Plat and PUD Plan. Conditions are listed under the proposed Resolution included with the packet.

For more information on this development, please refer to the Planning Commission packet provided. Additional documents may be available for review at the Fort Lupton City Hall.

Clear Form

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: William J. Johanningmeier

Company: Fort Lupton Commercial General Partnership

Phone: 970-227-3393 Email: bj@cbanoco.com

Address: 1295 Main Street #5, Windsor CO 80550

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Mitchell Nelson

Company: Baessler Development Group

Phone: 970-373-8569 Email: mnelson@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

Preferred method of contact? Email: ☑ Phone: ☑ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Melissa Wheeler

Billing Company: Baessler Development Group

Phone: 970-412-2153 Email: mwheeler@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

B. SITE DESCRIPTION

Site Address: _____

Parcel Number: 147105300004

Existing Zone Classification: R-3 Proposed Zone Classification: PUD

Water Type: Municipal Name: Flats at Lupton Village

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☑ PUD Plan (Preliminary & Final)
☑ Preliminary Plat	☐ Special Use Permit	☐ Variance
☑ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☑ Change of Zone	☐ Other: _____
☐ Site Plan	☑ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Flats at Lupton Village

Please provide a short description of the proposed project in the space provided below:

Located northeast of the intersection of Kahil Street (CR12) and Denver Avenue, Lupton Flats is a proposed PUD incorporating 120 Single Family Attached units, a commercial pad, and open space. Total acreage for the site is 13.31 acres. The project will access off Denver Avenue and include a public road with alley access for residents to their garage entrances.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Mitchell Nelson Date: 2/22/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: William J. Johanningmeier Date: 2/22/22

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.

2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.

3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

VIA Print/Email

City of Fort Lupton

Attn: Todd Hodges

February 22, 2022

RE: Overall Project Description

Dear City Staff,

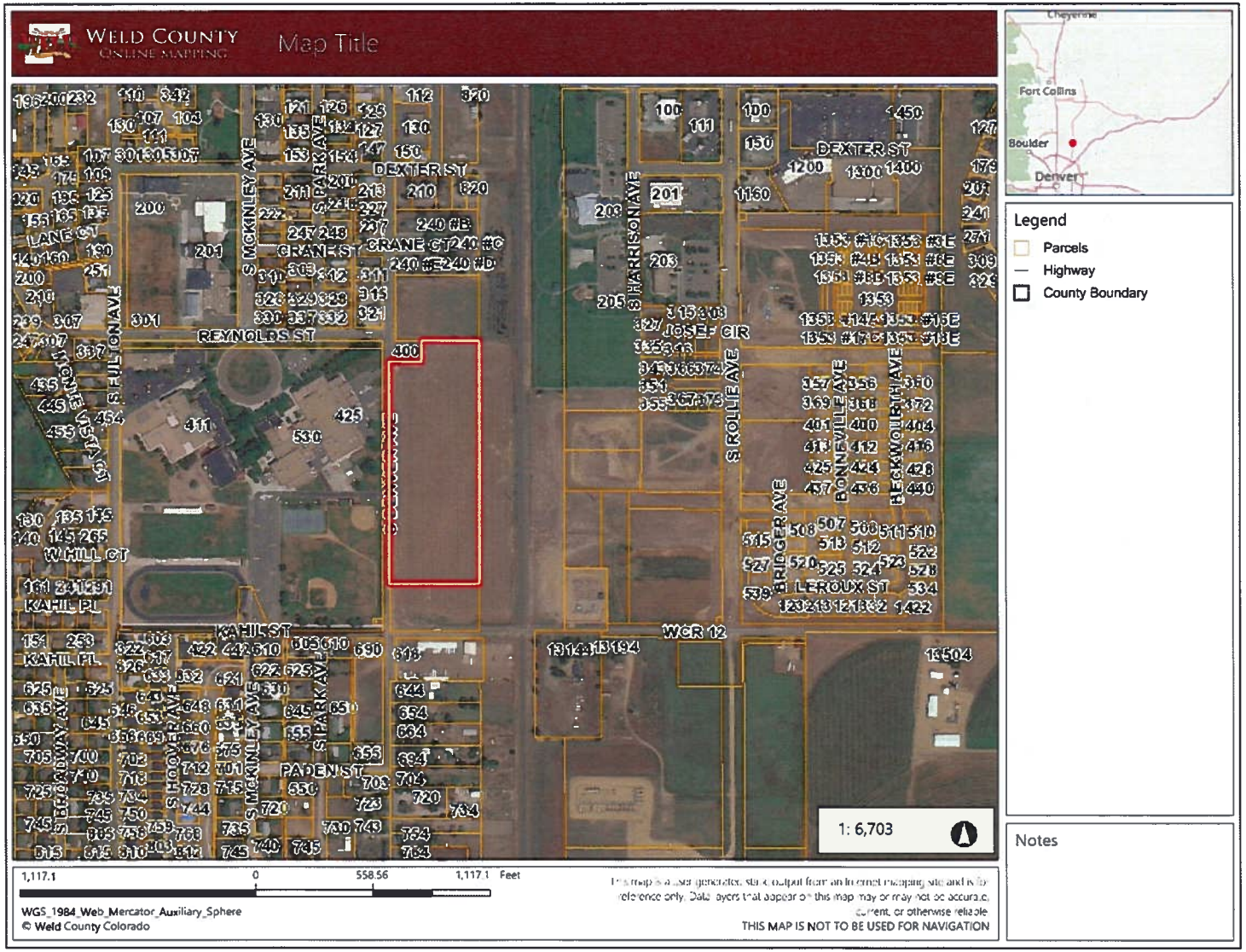
Lupton Flats (vicinity map sheet 2) is a PUD that proposes the construction of a single-family attached community consisting of approximately 120 units. The community will have two accesses off Denver Ave. There will be a primary public road moving north to south through the site. Alley access for the single family attached units will come laterally off the public right of way. It will include construction of sidewalk along both Denver Ave and County Road 12 within the project boundaries. There will be greenspace areas for residents of the community and a commercial lot will be preserved at the intersection of Denver Ave and County Road 12. The single family attached product will vary from 2 to 3-bedroom units and will be owned fee simple by buyers. Given the location of the project and proximity to both schools, City of Fort Lupton recreational facilities and trails, we believe that the proposed product type is appropriate and will be a valuable addition to the city.

Respectfully,

Andrew Gerk, Executive Vice President

Baessler Development LLC

3780 W 10TH ST. STE. 200, GREELEY, CO / 970-353-1492 / **BAESSLERHOMES.COM**


WELD COUNTY
ONLINE MAPPING
Map Title
DEXTER ST
CRANE CT
CRANE ST
REYNOLDS ST
JOSEF CIR
LEROUX ST
KAHIL ST
KAHIL PL
W HILL CT
PADEN ST
WCR 12
S MCKINLEY AVE
S PARK AVE
S HARRISON AVE
S ROLLIE AVE
BRIDGER AVE
BONNEVILLE AVE
BECKWOURTH AVE
S FULTON AVE
S HOOVER AVE
BROADWAY AVE
LANE CT
Cheyenne
Fort Collins
Boulder
Denver
Legend
Parcels
Highway
County Boundary
Notes
1: 6,703
1,117.1
0
558.56
1,117.1 Feet
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Weld County Colorado
THIS MAP IS NOT TO BE USED FOR NAVIGATION

PUD Land Use Standards

Setbacks	Proposed PUD	R-3 Zoning
Front	20'*	25'
Rear	15'*	20'
Side	Per City Code	5'
Corner	15'*	20'

Minimum Lot Area	Proposed PUD	R-3 Zoning
	1,000 SQ. FT.*	5,000 SQ. FT.

Minimum Lot Frontage	Proposed PUD	R-3 Zoning
	N/A	30'

* Denotes a variation of standards as compared with the R-3 Zoning District

Exterior wall materials	Proposed PUD	Residential Design Guidelines
Enhanced wall material	MIN. 25% Masonry Veneer/Stucco	MIN. 35% Brick/Stone
Remaining wall material	Siding	Stucco or Siding

- Future commercial area to abide by City of Fort Lupton C-1 standards.

Residential Design Guideline Variations

The Flats at Lupton Village PUD Requests a variance from the following residential design guidelines:

1. **Section IV.H.2.(a)(3):** Every building containing four (4) or more dwelling units shall have at least one (1) building entry or doorway facing any adjacent street that is not an arterial street or that has on-street parking.
2. **Section IV.H.3.(d)(1)**

PUD Land Use Standards - Residential

Zoning Standards

1. Permitted uses: Single-family attached uses shall be allowed in this PUD.
2. Maximum height: 35' (per City code)
3. Setbacks: Refer to "zoning code variation table". Every part of a required yard or setback shall be open and unobstructed, except from the ordinary projection of sills, cornices, ornamental features and eaves; provided, however, that none of the above projections shall project into a side yard more than twenty-four (24) inches.
4. Minimum lot area: Refer to "zoning code variation table".
5. Minimum floor area per dwelling unit: 750 sq. Ft. (per City code)
6. Minimum lot frontage: Refer to "zoning code variation table".
7. Fencing standards: Fences shall be constructed per the requirements of Chapter 16, Article V, of the Fort Lupton municipal code, except that chain link/woven wire fences are not an allowed material.
8. Utility maintenance statement: All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton public works department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.
9. Sight triangles: The construction of any fence and/or landscaping located at the intersection of public streets shall not obstruct motor vehicle operator views and shall comply with the requirements of Section 16-102 of the municipal code.

Design Guidelines

1. Building design repetition: identical building designs shall not be placed adjacent to each other. adjacent shall be defined as across streets, alleys, or sidewalks.
2. Exterior wall materials: refer to 'residential design guideline variations". wall materials shall be carried around all four building sides.
3. Roofing material: all sloped roof areas shall be clad with either high profile composition shingles such as slate, tile, or dimensional asphalt shingles, concrete or clay tiles, or seamed architectural metals.
4. Unique building characteristics: all buildings shall employ at least two (2) of the following design items applied consistently along each facade:
   a. Projections
   b. Recesses
   c. Shadow lines
   d. Window patterns
   e. Overhangs
   f. Reveals
   g. Changes in parapet height.
6. Building Enhancements: Each building shall contain at least six (6) of the following features:
   a. A minimum habitable floor area (excluding unfinished garage, attic, or unfinished basement space) of at least 1,000 square feet.
   b. A first floor front facade elevation that is 100% masonry.
   c. A primary roof slope of at least 6:12.
   d. A garage door with windows.
   e. Transom windows on at least one-quarter (1/4) of the windows facing public or private streets.
   f. At least one bay window.
   g. A front door containing two sidelights or one transom over the front door.
   h. An outdoor private enclosed area of at least one hundred (100) square feet.
   i. A covered front porch at least five (5) feet x eight (8) feet.
   j. A functional or simulated chimney appearing on an exterior wall, faced with masonry or stucco.
   k. At least one hundred (100) square feet of patterned paving materials used in driveways or walks open to public view.
   l. At least one roof dormer containing a window.
   m. A unit designed so that the unit's garage door or doors and its "front entry" appear on different sides of a building.
   n. A unit located in an attached town home row or attached cluster containing no more than three (3) units.
   o. A unit located in an attached townhouse row or attached cluster where no single elevation of the entire row or cluster contains more than four (4) garage doors (if garages are provided)
   p. The distance between residential structures is a minimum of 30 feet.
   q. Front elevation of the building contains at least three distinct roof breaks.
   r. Adjacent units in a building are different elevations.

PUD Zone District Standards - Commercial

1. Permitted Uses: General commercial uses shall be allowed in this PUD.

Utility Maintenance Statement

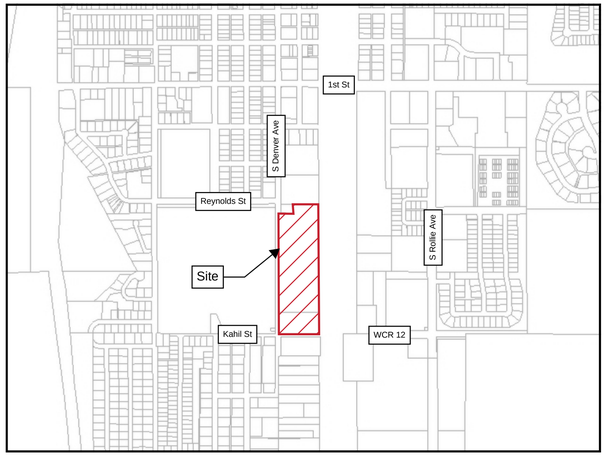
All streets as designated on page C13.2 - C13.4 of the approved construction plans and including Denver Avenue and CR12 are considered Public and will be maintained by the City.

City will be responsible for maintenance of all water, storm and sanitary sewer mains, submains and laterals up to the property line of each individual unit. Metro District is responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

All streetscaping will meet the requirements of the Fort Lupton Subdivision Regulations. Detention or Retention Pond improvements will be required at the time of construction on the site as determined by the Phase III Drainage Study submitted.

The Flats at Lupton Village Preliminary Plat/PUD

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Vicinity Map
Not to Scale

Sheet List Table			Revisions				
Page	Sheet Number	Sheet Title	A	B			
1	C1.0	Cover Sheet	✓	✓			
2	C1.1	Preliminary Plat	✓	✓			
3	C6.0	Grading Plan	✓	✓			
4	C8.0	Utility Plan	✓	✓			
5	C8.1	Utility Plan	✓	✓			
6	E1.0	Representative Elevations	✓	✓			
7	E1.1	Representative Elevations	✓	✓			
8	L1.0	Landscape Plans	✓	✓			
9	L2.0	Landscape Plans	✓	✓			
10	L3.0	Landscape Plans	✓	✓			
11	L4.0	Landscape Plans	✓	✓			
12	L5.0	Landscape Notes & Details	✓	✓			
13	LT1.0	Lighting Plans	✓	✓			

Land Use Summary Table								
Land Use	Area (ac)	No. of Units	Density	Garage Parking Provided	Off-Street Parking Provided	Required Parking	Open Space	Landscape Surface Ratio
Single-Family Attached	10.34	120	11.61 units/acre	240	72	240 (2 per unit)	4.62 acres	45%
Commercial	1.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A

- Future design to account for Land Use of commercial area.

Legal Description

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.

Project Contacts

Owner/Applicant
Baessler Development LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634
(970) 702-2051

Surveyor
Lat40, Inc.
6250 West 10th Street #2
Greeley, CO 80634
(970) 515-5294

Civil Engineer
LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634
(970) 632-2311

Landscape Architect
Ripley Design, Inc.
419 Canyon Avenue, Suite 200
Fort Collins, CO 80521
(970) 224-5828

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/20/2022

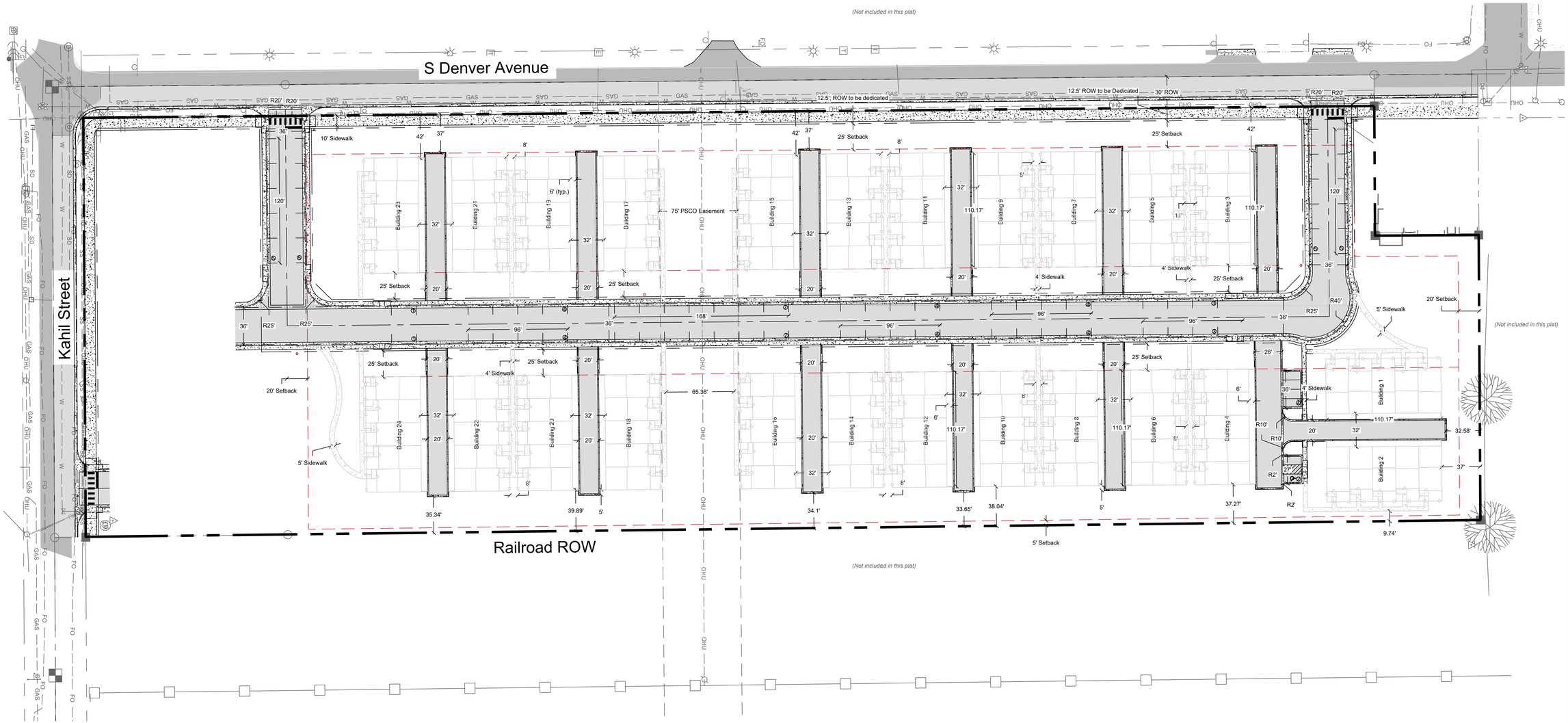
LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

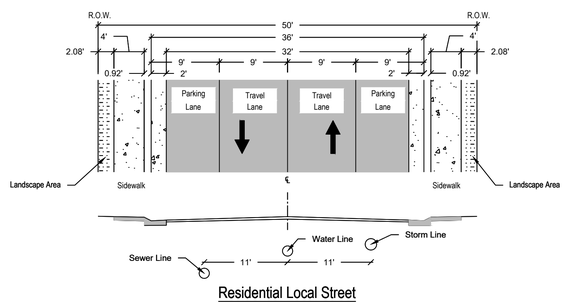
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	02/22/2022	1st Submittal to City
B	04/22/2022	2nd Submittal to City

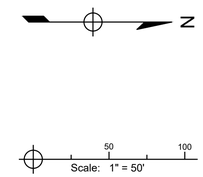
The Flats at Lupton Village — Cover Sheet — Fort Lupton, CO

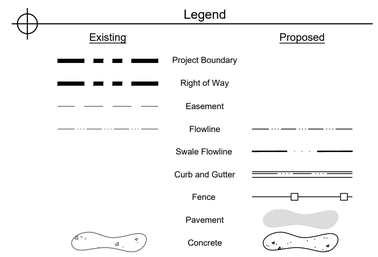
Sheet C1.0





Residential Local Street





LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/20/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

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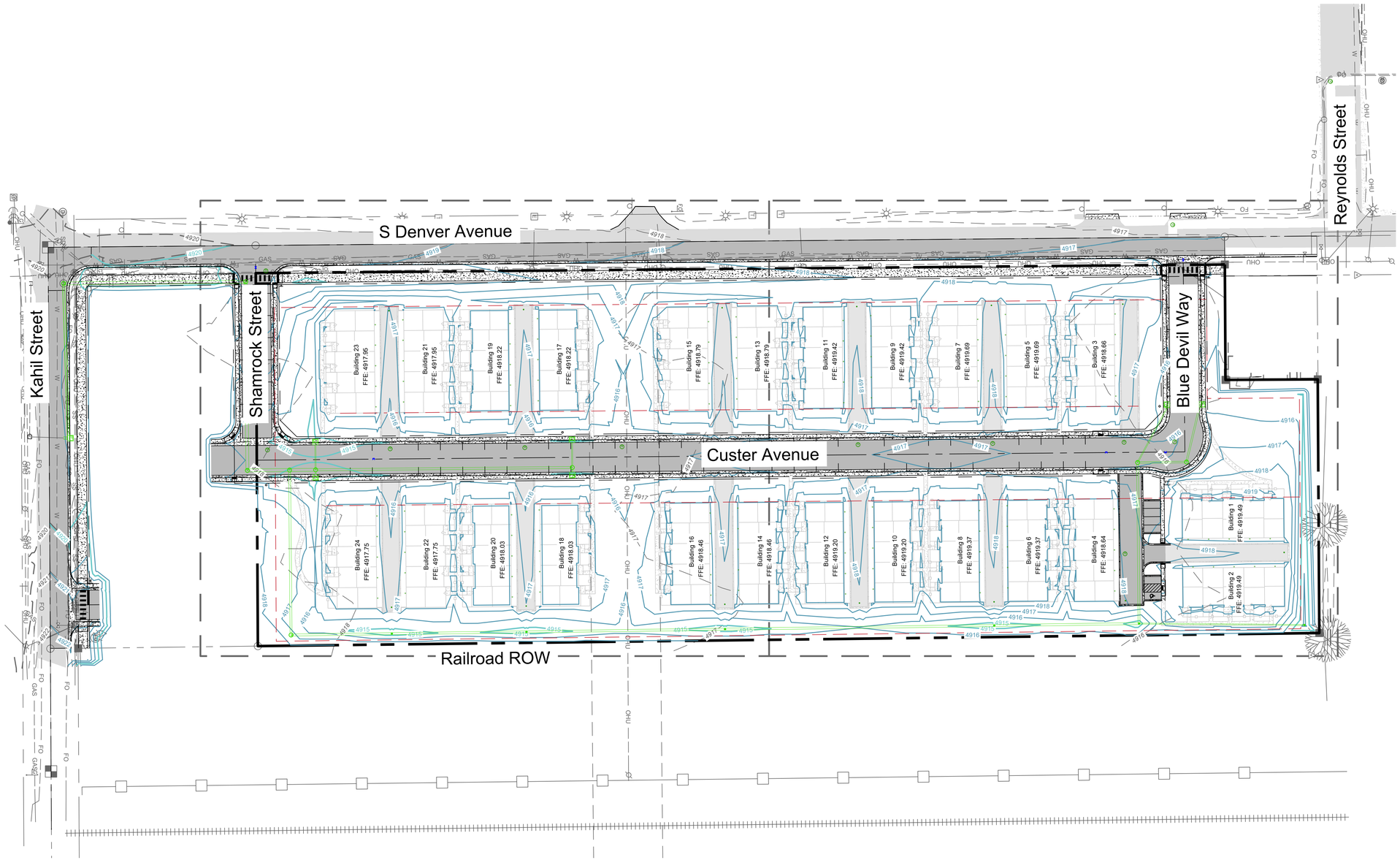
The Flats at Lupton Village

Preliminary Plat

Fort Lupton, CO

Sheet C1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\PUD Preliminary Plat 21-031.dwg, 4/12/2022 12:19:36 PM, Sam Boyd, LandOne Engineering



N

Scale: 1" = 60'

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
Major Contour	4800
Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Grading Plan Notes

1. FFEs are provided as reference only of possible future design, as well as to convey a design intent. Grading of townhomes, individual sidewalks, and driveways will be completed at time of plot plan.

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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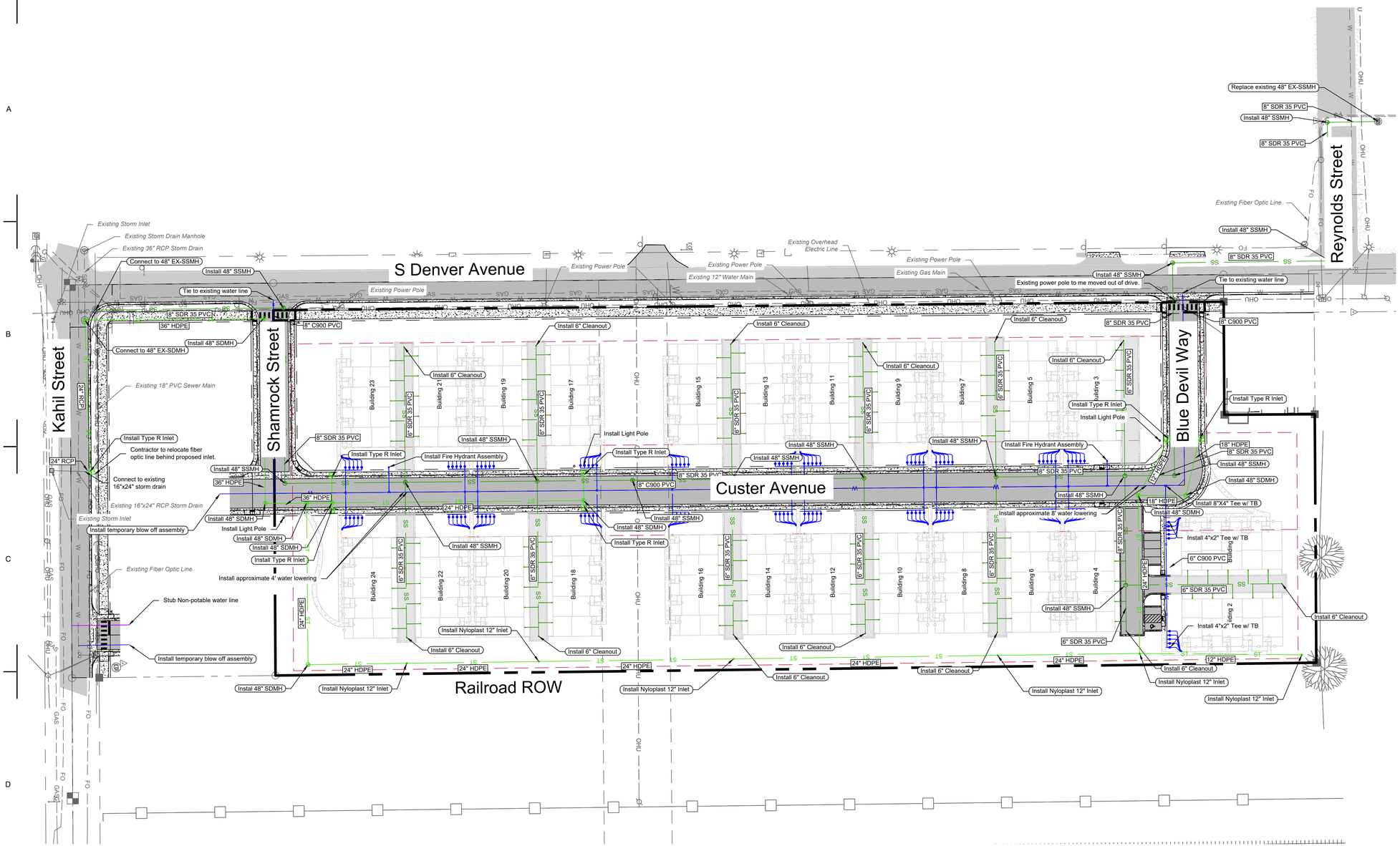
The Flats at Lupton Village
Construction Documents

Overall Grading Plan

Fort Lupton, CO

Sheet C6.0

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Overall Grading Plan 21-031.dwg, 4/22/2022 1:21:02 PM, Jennilinn, LandOne Engineering



N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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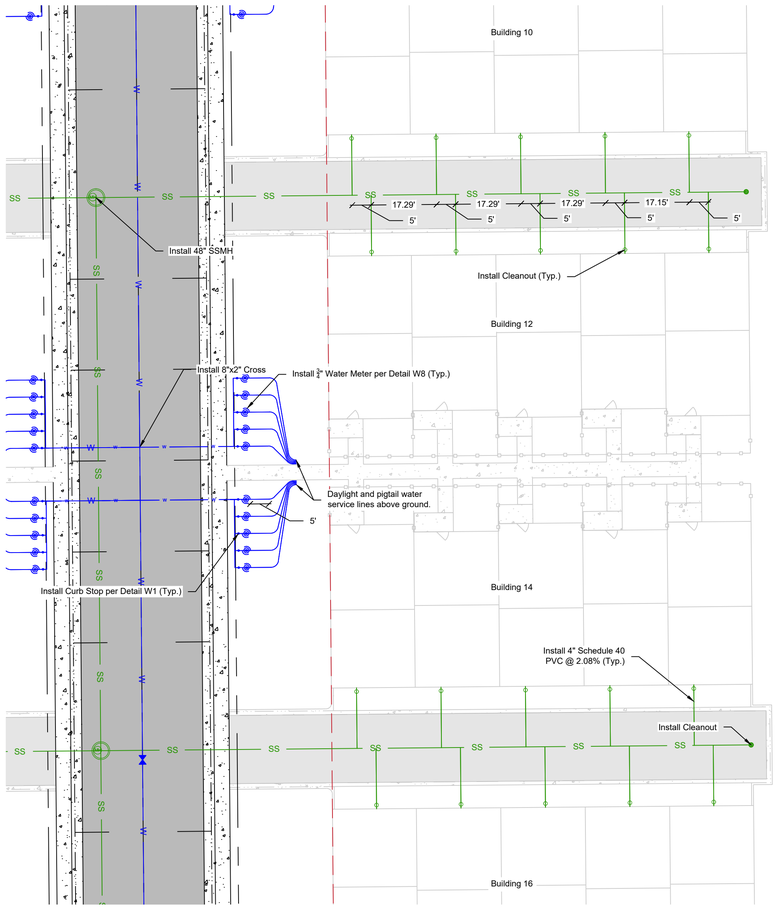
Rev. No.	Date	Revision Description
A	03/22/2022	1st Submittal to City
B	04/22/2022	2nd Submittal to City

The Flats at Lupton Village
Construction Documents

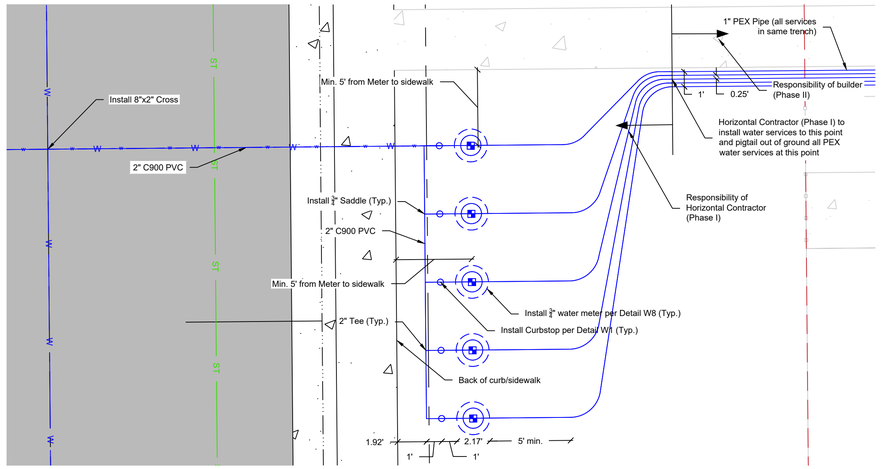
Overall Utility Plan

Fort Lupton, CO

Sheet C8.0



Phase I (Horizontal) Typical 5-Plex Utility Layout
Scale: 1" = 20'



Typical Water Service Meter/Curbstop Layout
Scale: 1" = 5'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

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The Flats at Lupton Village
Construction Documents

Typical Utility Services

Fort Lupton, CO

Sheet C8.1





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The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.0







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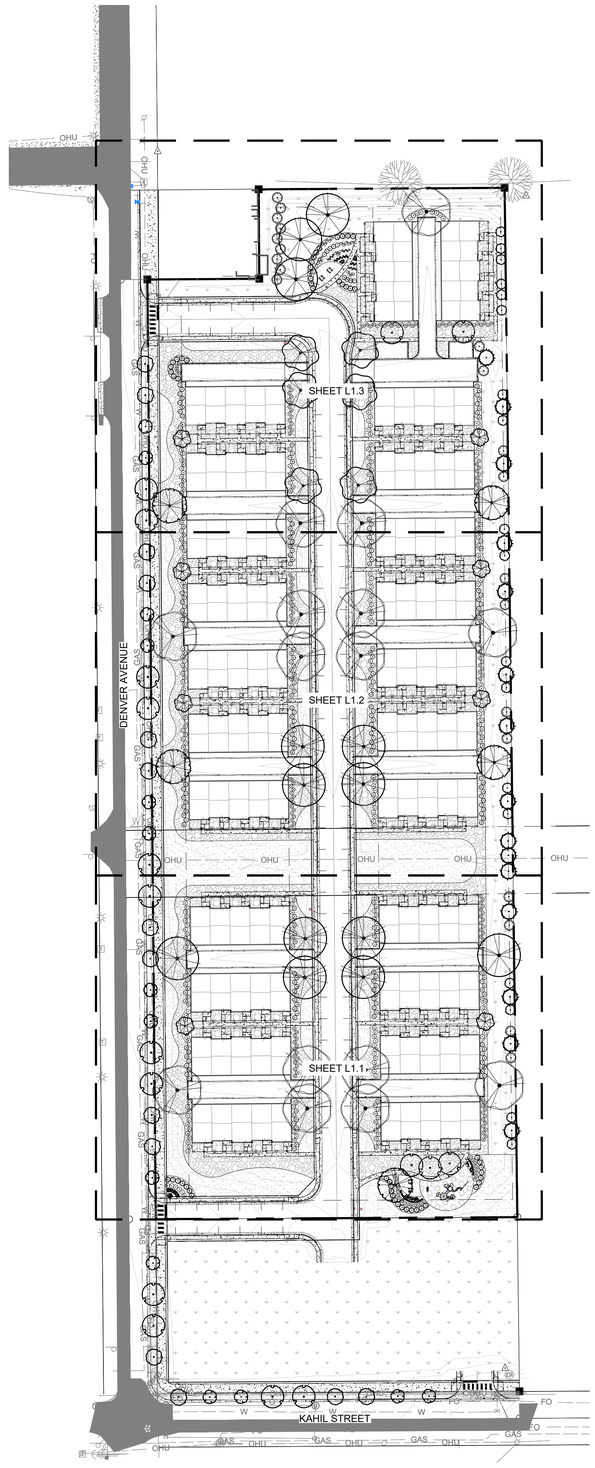
The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\Representative Elevations 21-031.dwg, 2/18/2022 1:12:38 PM, Sam Boyd, LandOne Engineering



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
	5	AESCULUS GLABRA OHIO BUCKEYE
	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
	15	QUERCUS ROBUR ENGLISH OAK
	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
	14	ACER GINNALA AMUR MAPLE
	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	CONCRETE

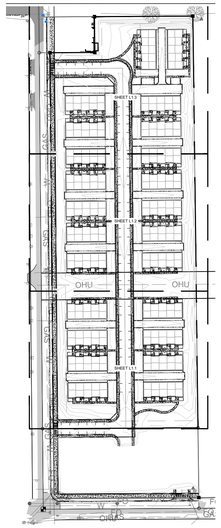
02 LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

KEY MAP



THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

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Project Manager
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f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH
SCALE: 1"=80'-0"
0 40 80 160

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

OVERALL LANDSCAPE PLAN

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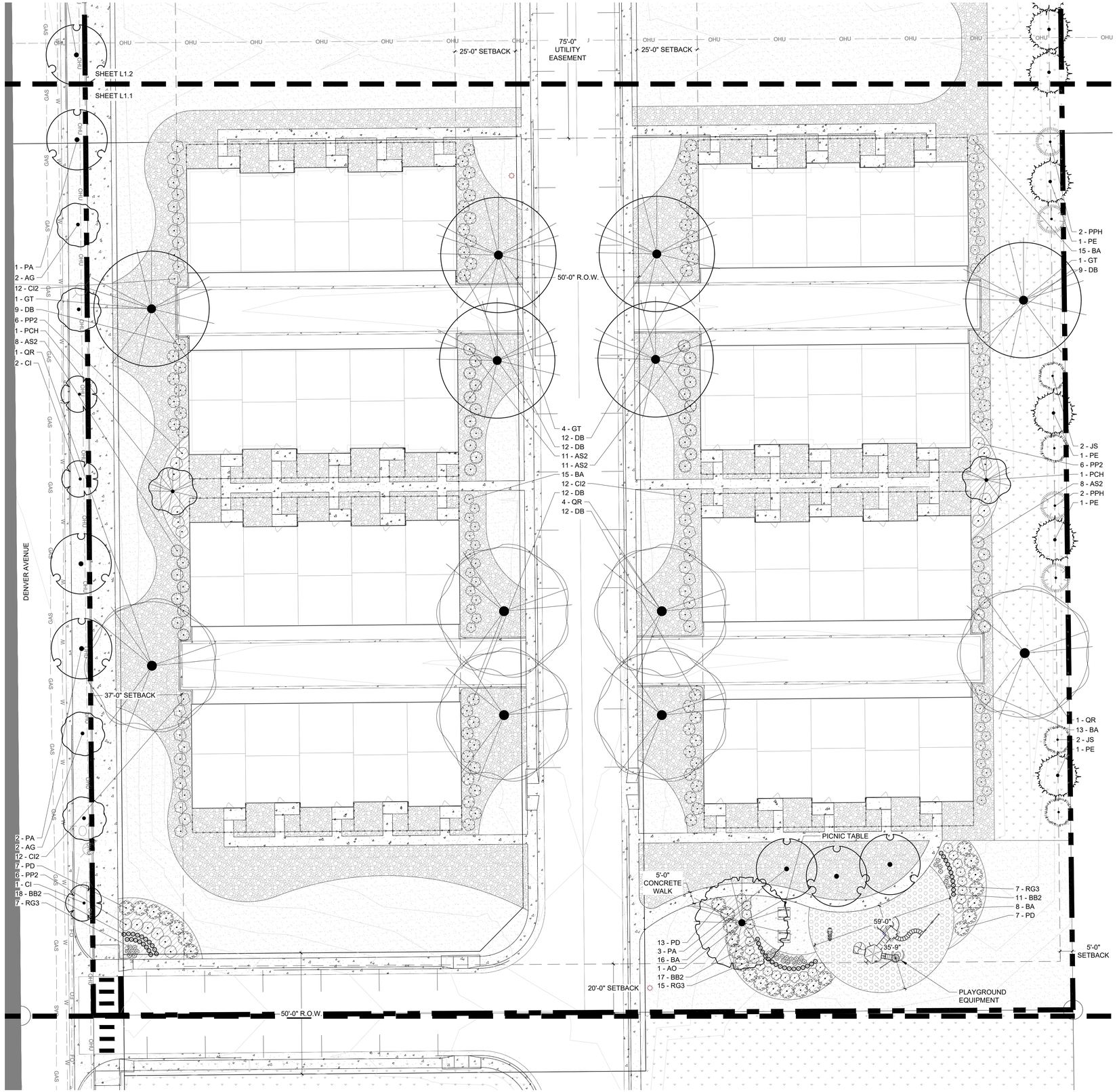
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

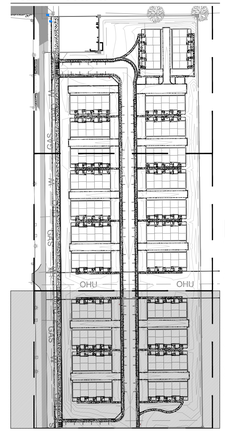
DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
PE	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
AG	14	ACER GINNALA AMUR MAPLE
CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
PA	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
DB	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
PD	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
PP2	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
RG3	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

= PROPERTY BOUNDARY
= STORM DRAIN
= EXISTING SANITARY SEWER
= EXISTING STORM DRAIN
= EXISTING WATER LINE
= EXISTING GAS
= EXISTING FIBER OPTIC
= EXISTING ELECTRIC
= OVERHEAD ELECTRIC
= EXISTING FENCE
= EXISTING TREE
= EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
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CIVIL ENGINEER
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Jeremy Goetsch
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p. 970.443.9547

NORTH SCALE: 1"=20'-0"
0 10 20 40

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

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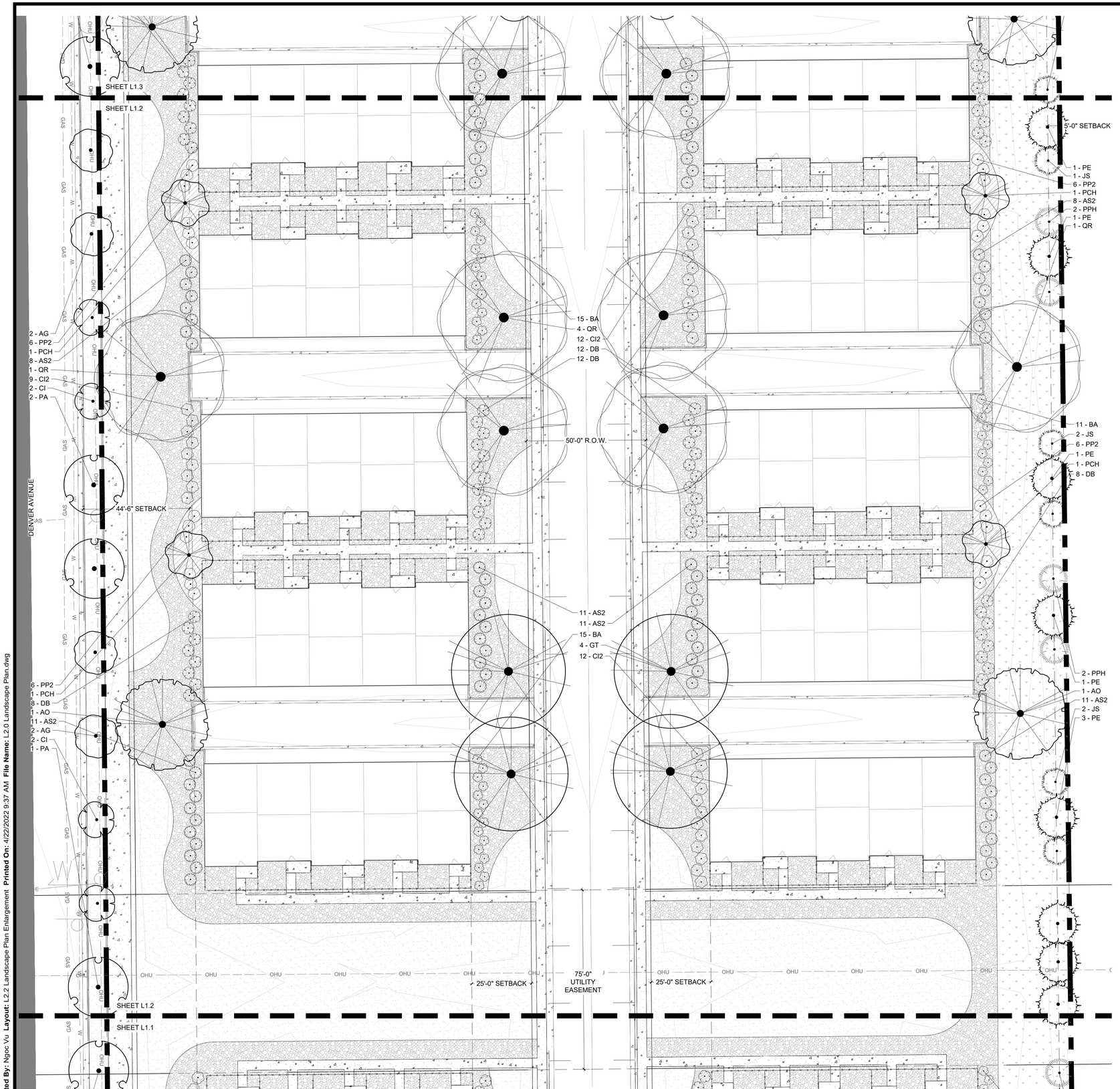
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

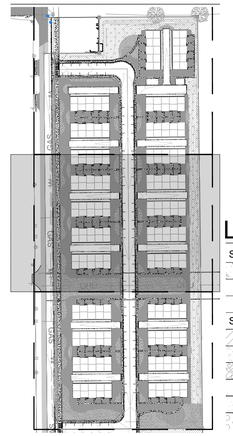
DRAWING NUMBER:

L1.1 OF 5

Plotted By: Ngoc Vu **Layout:** Landscape Plan Enlargement **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
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THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

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ORIGINAL SIZE 24X36

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REVISIONS

No.	DESCRIPTION	DATE
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LANDSCAPE PLAN ENLARGEMENT

SEAL:

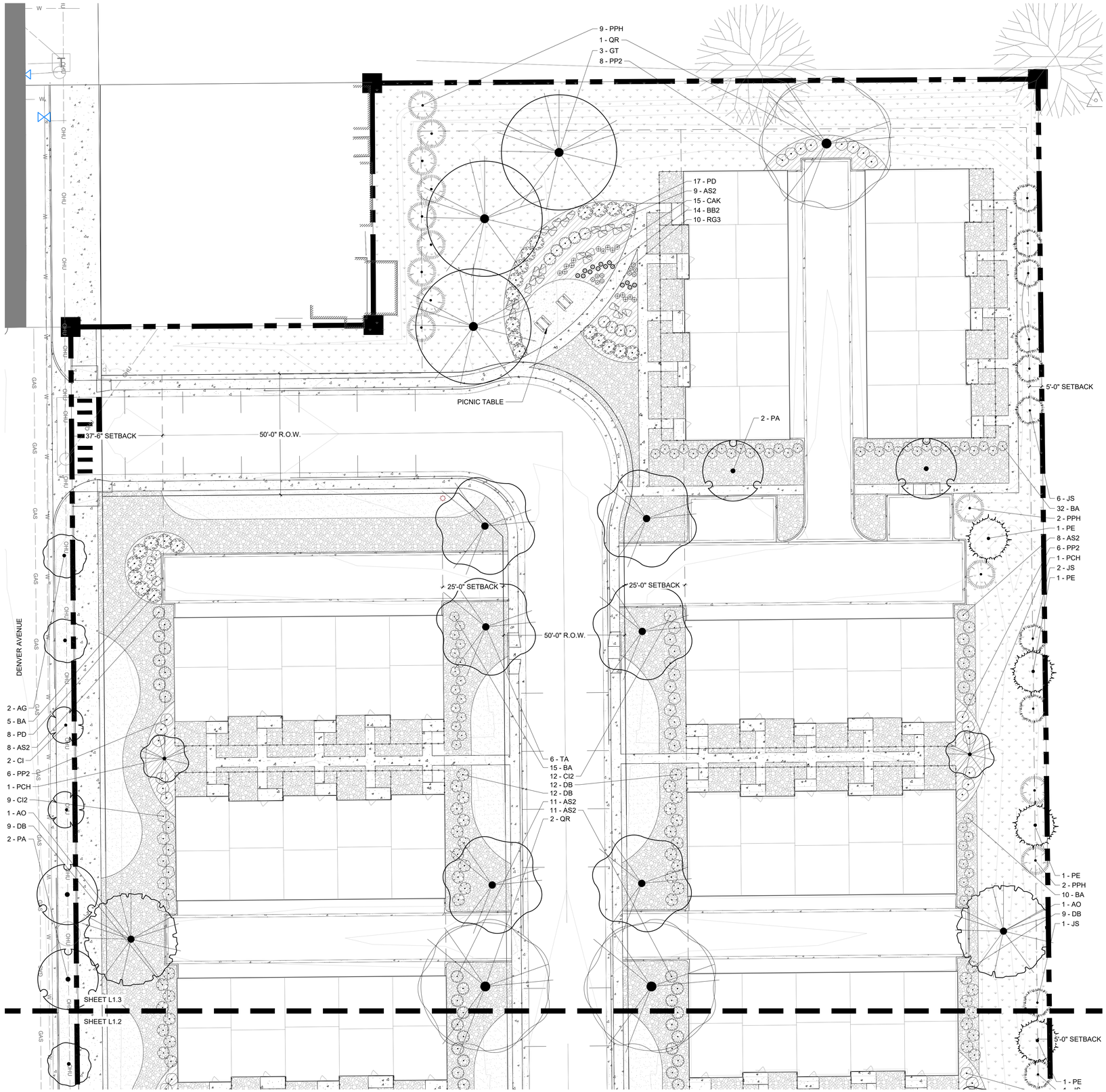
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

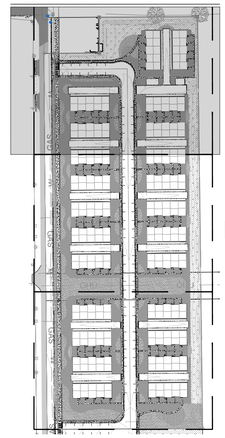
DRAWING NUMBER:

L1.2 OF 5

Plotted By: Ngoc Vu **Layout:** L2.2 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACI

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
PE	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
AG	14	ACER GINNALA AMUR MAPLE
CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
PA	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
DB	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
PD	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
PP2	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
RG3	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

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Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

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CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
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p. 970.443.9547

NORTH
0 10 20 40
SCALE: 1"=20'-0"

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

DRAWING NUMBER:

L1.3 OF 5

Plotted By: Ngoc Vu **Layout:** L2.3 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg

GENERAL LANDSCAPE NOTES

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE - FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT.

2. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE CITY WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.

3. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

4. SOIL AMENDMENTS: SOIL AMENDMENTS SHALL BE PROVIDED AND DOCUMENTED IN ACCORDANCE WITH CITY CODE SECTION 12-132. THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, A WRITTEN CERTIFICATION MUST BE SUBMITTED TO THE CITY THAT ALL PLANTED AREAS, OR AREAS TO BE PLANTED, HAVE BEEN THOROUGHLY LOOSENED AND THE SOIL AMENDED, CONSISTENT WITH THE REQUIREMENTS SET FORTH IN SECTION 12-132.

5. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.

6. MAINTENANCE: TREES AND VEGETATION, IRRIGATION SYSTEMS, FENCES, WALLS AND OTHER LANDSCAPE ELEMENTS WITH THESE FINAL PLANS SHALL BE CONSIDERED AS ELEMENTS OF THE PROJECT IN THE SAME MANNER AS PARKING, BUILDING MATERIALS AND OTHER SITE DETAILS. THE APPLICANT, LANDLORD OR SUCCESSORS IN INTEREST SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL LANDSCAPING ELEMENTS IN GOOD CONDITION. ALL LANDSCAPING SHALL BE MAINTAINED FREE FROM DISEASE, PESTS, WEEDS AND LITTER, AND ALL LANDSCAPE STRUCTURES SUCH AS FENCES AND WALLS SHALL BE REPAIRED AND REPLACED PERIODICALLY TO MAINTAIN A STRUCTURALLY SOUND CONDITION.

7. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.

8. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:
   - 10 FEET BETWEEN TREES AND FIRE HYDRANTS AND OVERHEAD UTILITY POLES.
   - 10 FEET BETWEEN TREES AND ANY UNDERGROUND UTILITIES.
   - 30 FEET BETWEEN TREES AND STREET INTERSECTIONS

9. ALL STREET TREES SHALL BE PLACED A MINIMUM EIGHT (8) FEET AWAY FROM THE EDGES OF DRIVEWAYS AND ALLEYS.

10. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT LUPTON.

11. THE FINAL LANDSCAPE PLAN SHALL BE COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE

12. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION – AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED.

13. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES.

14. IRRIGATED TURF SHALL BE TEXAS BLUEGRASS/KENTUCKY BLUEGRASS HYBRID REVEILLE OR APPROVED EQUAL.

15. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL BE 18" X 4" ROLLED TOP STEEL SET LEVEL WITH TOP OF SOD OR APPROVED EQUAL.

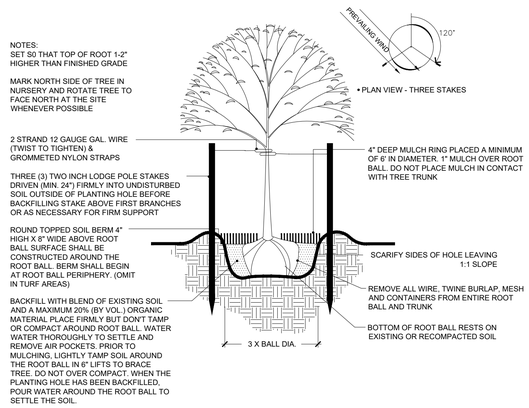
16. STRAW / COCONUT SOIL RETENTION BLANKET SHALL BE APPLIED TO ALL SEEDED AREAS ON SLOPES GREATER THAN 3:1.

17. ONLY SMALL TREES SHALL BE USED WHEN PLANTING UNDER OR WITHIN 10 LATERAL FEET OF OVERHEAD UTILITY WIRES.

18. ONLY SMALL TREES SHALL BE PLANTED OVER OR WITHIN 10 10 LATERAL FEET FROM ANY UNDERGROUND UTILITIES.

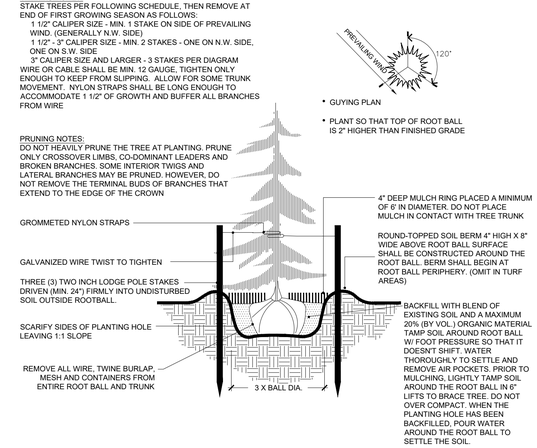
WATER USE TABLE

HYDROZONE	AREA (SF)	WATER NEEDED (GALLONS/SF)	ANNUAL WATER USE (GALLONS)
MODERATE	28022	10	280,220.00
LOW	82495	3	247485.00
VERY LOW	169064	0	0.00
TOTAL	279,581	1.8875	527,705
ANNUAL WATER USE NOT TO EXCEED 15 GAL./SF. AVERAGE OVER THE SITE			



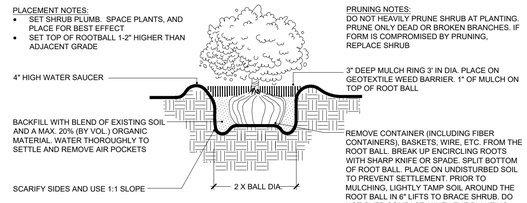
1 TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-02



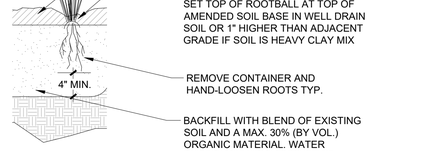
2 CONIFER TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-16



3 SHRUB PLANTING DETAIL

SCALE: NTS L-PL2-PLA-14



4 ORNAMENTAL GRASS DETAIL

NO SCALE L-PL2-PLA-19

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
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phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

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NORTH 0 05 10 20 SCALE: 1"=10'-0"

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

NOTES & DETAILS

SEAL:

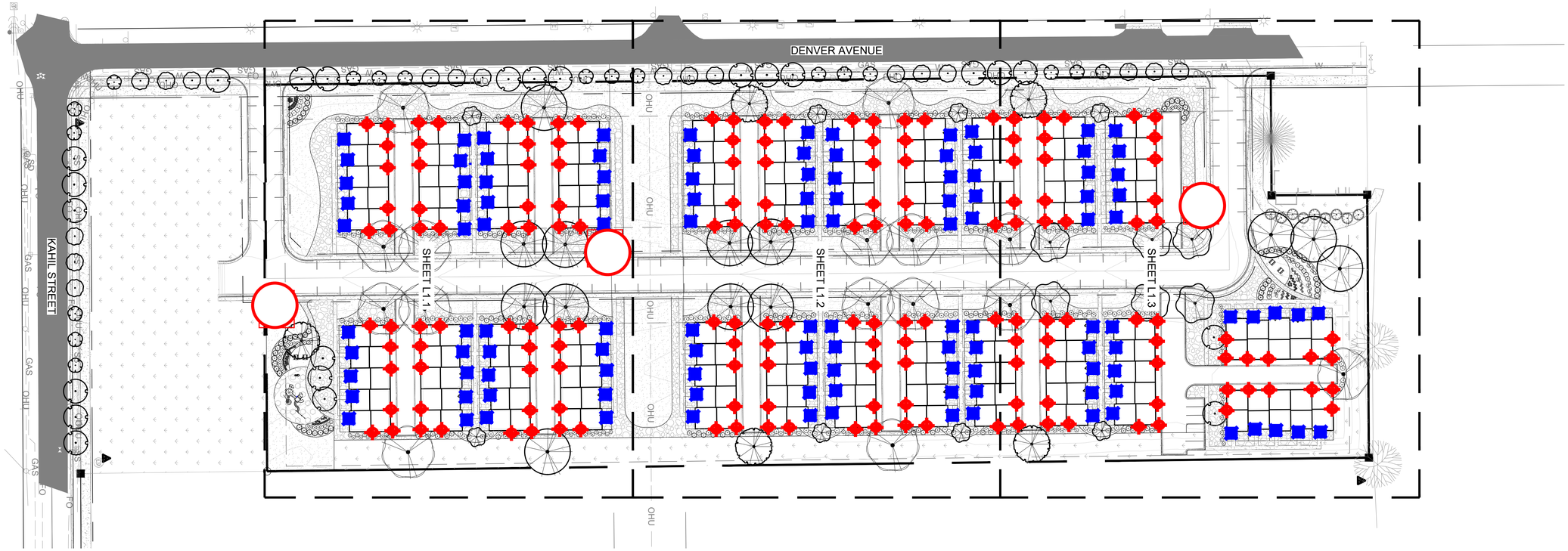
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

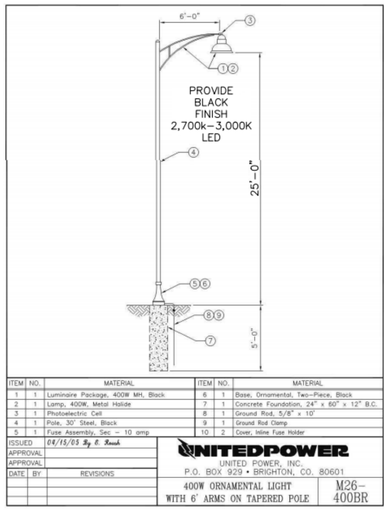
DRAWING NUMBER:

L2.0 OF 5

Plotted By: Ngoc Vu **Layout:** Notes & Details **Printed On:** 4/22/2022 9:37 AM **File Name:** L3.0 Notes & Details.dwg



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec - 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: B. Kanuk
APPROVAL	
APPROVAL	
DATE / BY	REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26-400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

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SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID:2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



ALSO IN THIS FAMILY



Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

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NORTH SCALE: 1"=80'-0" (0 40 80 160)

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	01/17/2022

LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2021-0029 & PLAN No. SPL2021-0001

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

DEDICATION

Know all men by these presents, that we, Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of the land described herein, have caused said land to be laid out and platted under the name of Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION and do hereby dedicate to the City of Fort Lupton and it's licensees for public use forever all streets, alleys and utility easements as indicated hereon, in compliance with the City of Fort Lupton Subdivision Regulations and by contractual agreement, the landowners shall bear all expenses involved in improvements.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through William J. Johanningmeier, on behalf of
JMeier, Inc. Managing Member

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through William J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Baessler Development LLC
By: Andrew J. Gerk As: Exectutive Vice President

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as Exectutive Vice President

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

OWNER'S APPROVAL

Know All Men By These Presents, that Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of

the land described herein, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through William J. Johanningmeier, on behalf of
JMeier, Inc. Managing Member

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through William J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

ary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Baessler Development LLC
By: Andrew J. Gerk As: Exectutive Vice President

STATE OF _____)
)ss
COUNTY OF _____)

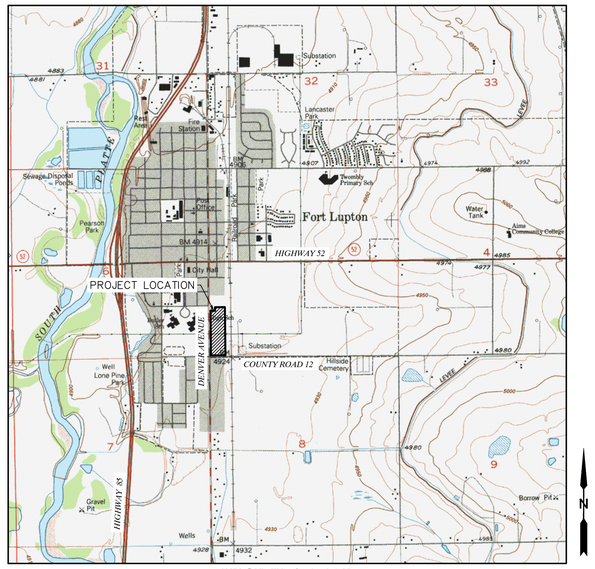
The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as Exectutive Vice President

Witness my hand and official seal.

My commission expires _____

_____
Notary Public



VICINITY MAP
SCALE – 1"=2000'

MAYOR'S CERTIFICATE

This is to certify that a plat of the above-described property was approved by Resolution No. 2022_____ of the City of Fort Lupton passed and adopted on the ____ day of _____ 20____ and that the Mayor of the City of Fort Lupton, as authorized by said resolution on behalf of the City of Fort Lupton, hereby acknowledges and adopts the said plat upon which this certificate is endorsed for all purposes indicated thereon.

_____
Mayor

Attest:

_____
City Clerk
(Seal)

CITY ADMINISTRATOR'S APPROVAL

Approved this _____day of _____, 20 _____.

_____
City Administrator

CITY WATER AND SEWER DEPARTMENT APPROVAL

Approved this _____day of _____, 20 _____.

_____
Director of Public Works

CITY ENGINEER'S APPROVAL

Approved this _____day of _____, 20 _____.

Accepted by: _____
City Engineer

DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1376.07 feet to the South line of the SW1/4 of said Section 5;
THENCE South 89°40'24" West along said South line a distance of 434.91 feet to the Southwest corner of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

SURVEYOR'S CERTIFICATE

I, Jason S. Allee, a duly registered land surveyor in the State of Colorado, do hereby certify that this Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION was performed by me or under my direct supervision, and that this Plat has been prepared in compliance with all applicable laws of the State of Colorado at the time of this survey and within my control, and is accurate to the best of my knowledge, information and belief.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S IMPROVEMENT CERTIFICATE

I hereby certify that, on the date shown, a field survey was conducted under my supervision of the above-described property, and that all building improvements, easements and rights-of-way in evidence or known to me are correctly shown on the above plat. I further certify that there are no encroachments by and/or on this property, unless otherwise noted.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

1. Total Surveyed Area: 12.15 Acres (±529,309 sq.ft.).

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Entire property is in Flood Zone X, areas of minimal flood hazard per FEMA Flood Map Number 08123C210E, effective on 01/20/2016. The referenced Federal Insurance Rate Map was not available for viewing. The FIRMette states the map is "Not Printed".

4. Current zoning is C-1 (General Commercial), per the City of Fort Lupton Interactive Zoning Map.

5. The 75' PSCO right-of-way easement is shown in the title commitment as being granted by an instrument recorded December 5, 1947 under Reception No. 1019613. the reception no. could not be found within the records of the Weld County Clerk and Recorder via the ICRIS self service document research system.

6. NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PROJECT CONTACTS:

DEVELOPER:
Lupton Village Land Developers, LLC
3780 W. 10th Street, Suite 200
Greeley, CO 80634
Ph: (970)702-2009
Andrew J. Gerk

ENGINEER:
LandOne Engineering LLC
361 71st Avenue
Greeley, CO 80634
Ph: (970)443-2311
Jeremy Goetsch, PE

SURVEYOR:
Lat40°, Inc.
6250 W. 10th Street, Unit 2
Greeley, CO 80634
Ph: (970)515-5294
Jason Allee, PLS

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

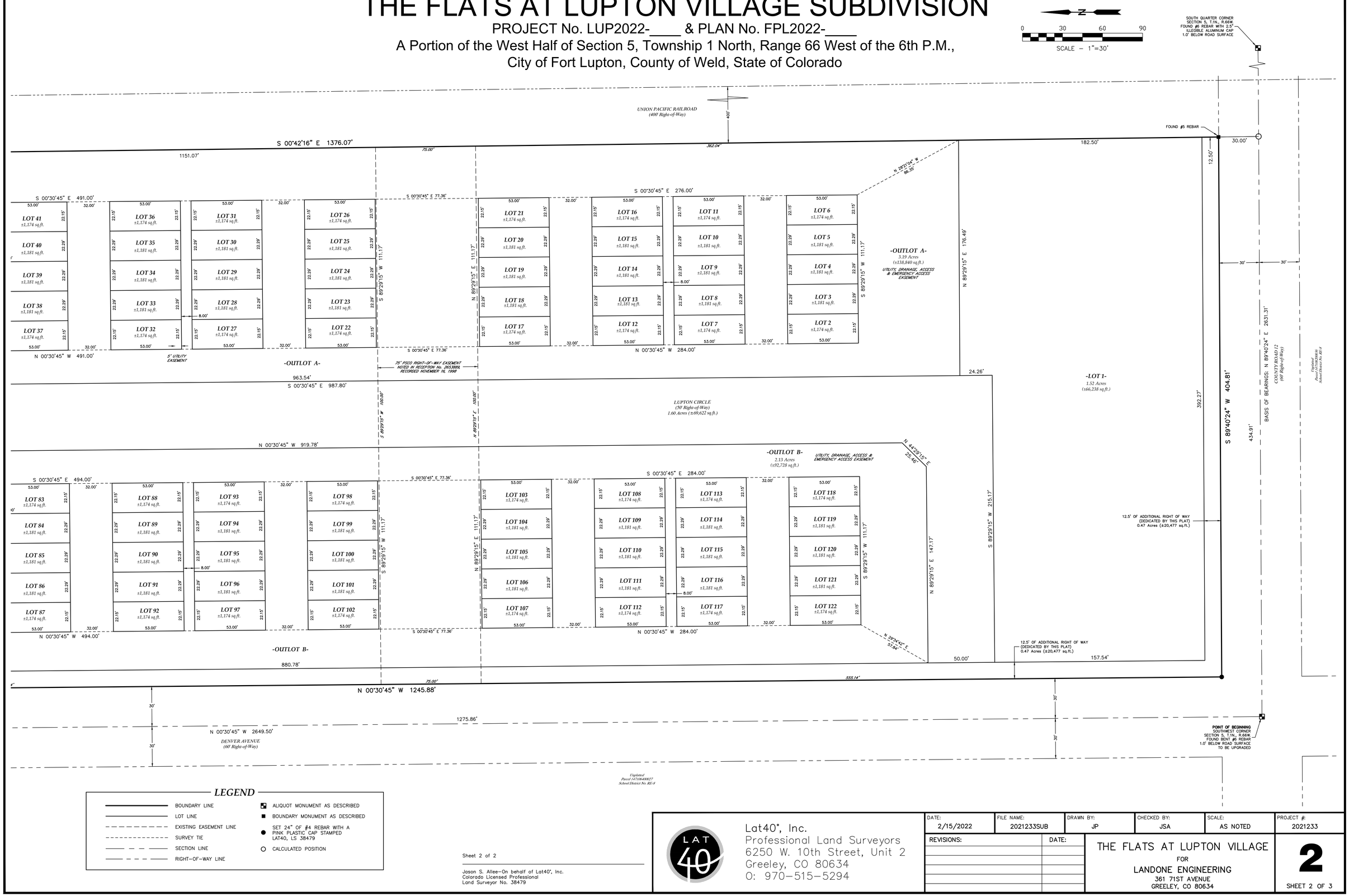
1
SHEET 1 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

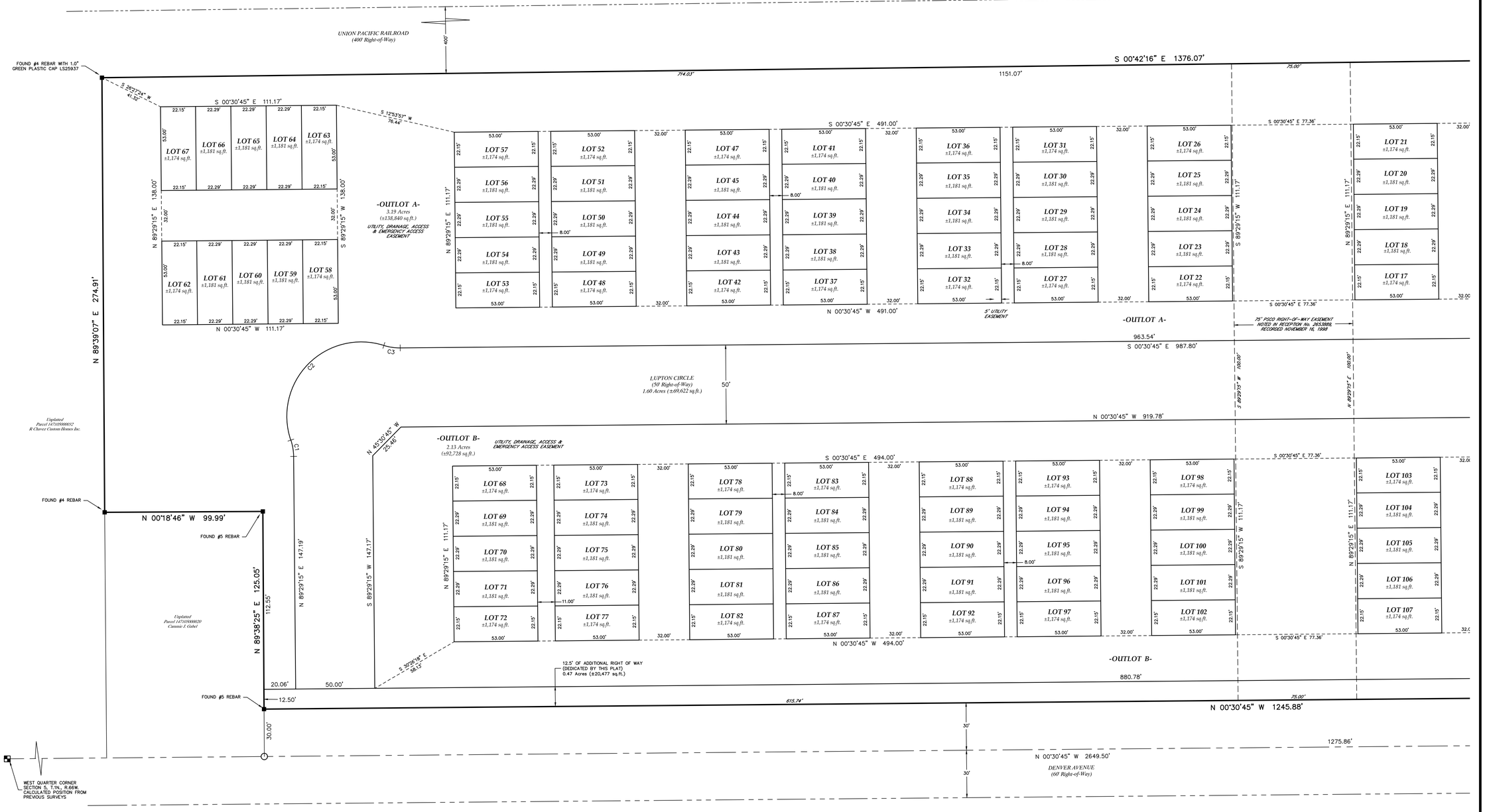
2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'23"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3
SHEET 3 OF 3

April 22, 2022

Public Works Director
City of Fort Lupton Public Works
130 S McKinley Avenue
Fort Lupton, CO 80621

RE: Final Drainage Analysis
The Flats at Lupton Village, Fort Lupton, Colorado

To whom it may concern:

LandOne has completed an analysis of the drainage design for The Flats at Lupton Village, Fort Lupton, Colorado (See Exhibit A), to determine if the site's proposed design flow is less than that of the assumed design flow from the "Kahil Storm Project" completed by the City of Fort Lupton in January of 2020.

An analysis of the original storm drainage system design provided by the City of Fort Lupton (See Exhibit F) found that the site falls within Basin N1 from the "Kahil Storm Project". The site was divided into subbasins (See Exhibit E). The On-site Basin includes to the east edge of the Denver Avenue east sidewalk. The Commercial Site Basin includes to the Center of South Denver Avenue to the west and to the Center of Weld County Road 12 to the south. The Denver Avenue Basin flows north, matching the existing condition, and as a result is not included in the contributing flow to the storm system. The offsite basin is the portion of railroad right-of-way directly east of the proposed site. In the existing condition, the offsite basin flows from south to north, this existing condition will be maintained, so flow from the offsite basin will not contribute to the existing storm system.

The assumed overall flow contributing to the existing storm drainage system from Basin N1 in the major event (100-yr) is 40.3 cfs according to the "Kahil Storm Project". The proposed design flow for the three proposed basins using the rational calculation (See Exhibit B) was calculated to be 39.03 cfs (The summation of the onsite basins). As the total design flow for the proposed site is less than that of the assumed design flow from Basin N1 of the "Kahil Storm Project", the downstream infrastructure will be sufficient for the proposed design and on-site detention will not be required.

The street capacity for the roads interior to the site was analyzed and determined to be 2.4 cfs in the minor event and 261 cfs in the major event (Reference Exhibit C). Since none of the on-site basins exceed these amounts, the street capacity is sufficient for the calculated design flows interior to the townhome project (Reference Exhibit B).

The flow from Basins A, C, E, H, I, and L will be captured in 12" Nyloplast inlets. An inlet analysis has been completed for the 12" Nyloplast Inlets, specifically the inlets capturing Basins A and L as Basins A and L generate the most flow in the 100-yr event (0.3cfs). A 12" Nyloplast inlet is capable of accepting approximately 1.32 cfs with 1' of head (Reference Exhibit D), therefore a 12" Nyloplast inlet is acceptable at the six proposed locations.

The flow from Basins D, F, J and K will be captured in Single Type R inlets (4" Curb). An inlet analysis has been completed for the Single Type R inlets (4" Curb), specifically the inlet capturing Basin F was analyzed as Basin F generates the most flow (1.88 cfs in the minor event, and 6.03 cfs in the major event). A single Type R inlet with 4" curb is capable of accepting approximately 1.91 cfs in the minor event, and 15.74 cfs in the major event (Reference Exhibit D), therefore a single Type R inlet is acceptable at the four proposed locations.

The flow from Basins B and G will be captured in Double Type R Inlets (4" Curb). An inlet analysis has been completed for the double Type R Inlets (4" Curb), specifically the inlet capturing Basin G was analyzed as Basin G generates the most flow (2.22 cfs in the minor event, and 6.41 cfs in the major event). A double Type R Inlet with 4" curb is capable of accepting approximately 3.13 cfs in the minor event, and 32.79 cfs in the major event (Reference Exhibit D), therefore a double Type R Inlet is acceptable at the two proposed locations.

The flow from Basin CR12 will be captured in a Single Type R Inlet (6" Curb). An inlet analysis has been completed for the Single Type R Inlet (6" Curb), Basin CR12 generates 0.90 cfs in the minor event, and 2.45 cfs in the major event. A Single Type R Inlet with 6" curb is capable of accepting approximately 5.38 cfs in the minor event, and 14.95 cfs in the major event (Reference Exhibit D), therefore a single Type R Inlet is acceptable at the proposed location in CR12. Ultimately all flow will be conveyed via proposed storm system to the existing storm infrastructure southwest of the site.

Based on the calculations, additional detention will not be required on site. The design flow from the proposed site will be less than the assumed flow from the Kahil Storm Project, and therefore the proposed storm design is acceptable.

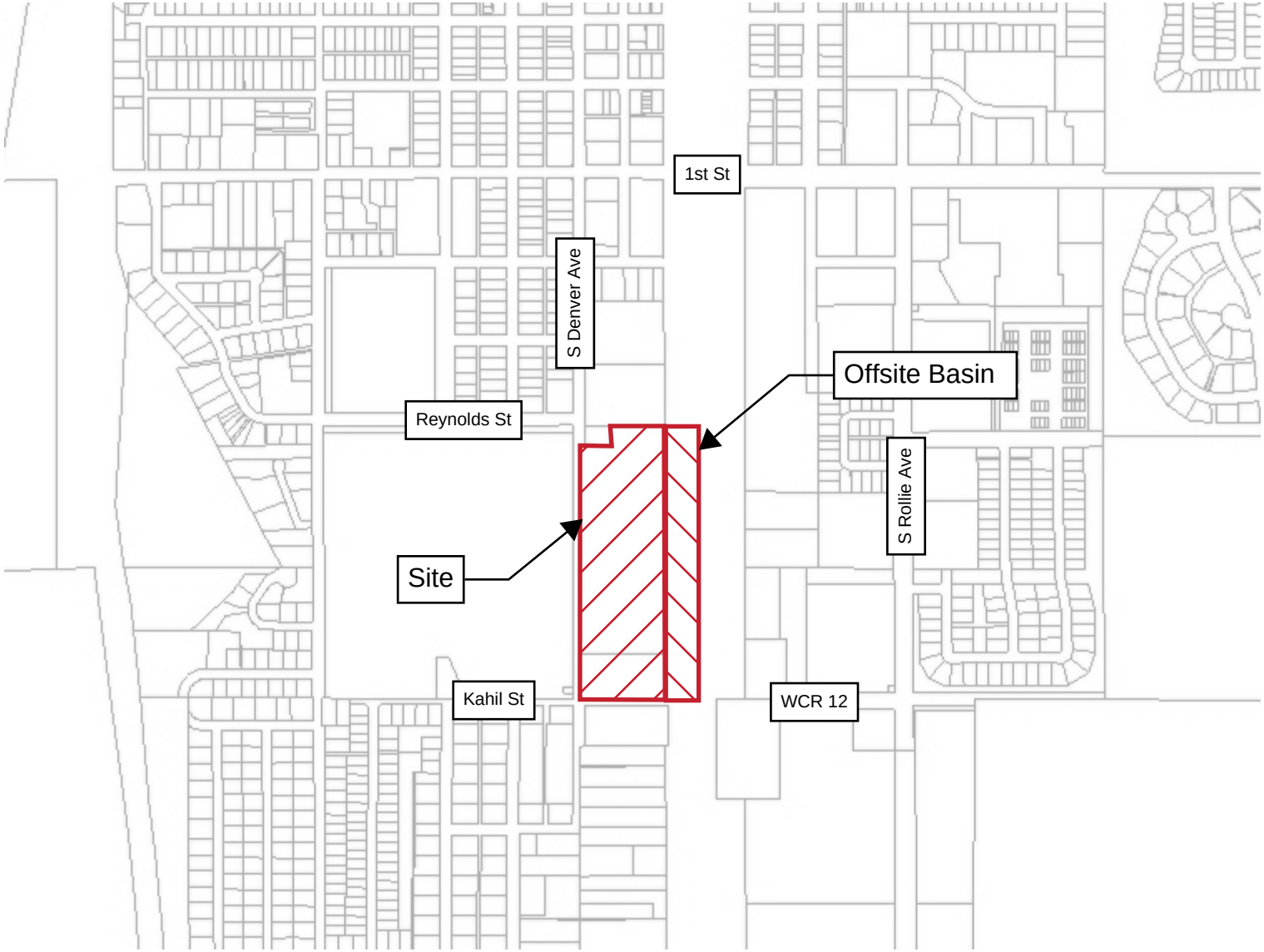
The following information is provided for reference:

- Exhibit A – Vicinity Map
- Exhibit B – Rational Calculations
- Exhibit C – Street Capacity Analysis
- Exhibit D (4 pages) – Inlet Analysis
- Exhibit E – Drainage Basins
- Exhibit F – Excerpts from "Kahil Storm Project"

If you have any questions or need additional information, please contact me.

Sincerely,
LandOne Engineering, LLC

Jeremy Goetsch, PE
Project Engineer
Enclosures



The Flats at Lupton Village

Exhibit A - Vicinity Map

LANDONE engineering
970-632-2311

Calculation of Peak Runoff using Rational Method

Designer: SB
Company: Landone
Date: 4/18/2022
Project: The Flats at Lupton Townhomes 21-031
Location: Fort Lupton, CO

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_i^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{minimum} = 5$ (urban)
$t_{minimum} = 10$ (non-urban)

Selected $t_c = \max(t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c))$

Select UDFCD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
1-hour rainfall depth, P1 (in) =	0.83	1.11	1.38	1.82	2.21	2.64	3.83

	a	b	c
Rainfall Intensity Equation Coefficients =	28.50	10.00	0.786

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$$Q(cfs) = CIA$$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time					Channelized (Travel) Flow Time							Time of Concentration			Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)	Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
Basin A	0.51	A	4.0	0.01	0.01	0.02	0.02	0.06	0.14	0.28	300.00			0.007	38.20	162.00			0.007	15	1.25	2.15	40.35	28.70	28.70	1.34	1.79	2.22	2.93	3.56	4.25	6.17	0.01	0.01	0.02	0.04	0.11	0.30	0.88
Basin B	1.43	A	76.0	0.59	0.61	0.62	0.65	0.67	0.70	0.74	300.00			0.005	19.39	150.00			0.005	20	1.41	1.77	21.16	14.88	14.88	1.89	2.53	3.14	4.15	5.04	6.02	8.73	1.58	2.19	2.79	3.84	4.84	6.03	9.27
Basin C	0.12	A	16.0	0.08	0.08	0.09	0.11	0.16	0.23	0.36	130.00			0.010	20.93	0.00			0.010	15	1.50	0.00	20.93	23.28	20.93	1.59	2.13	2.65	3.49	4.24	5.07	7.35	0.02	0.02	0.03	0.05	0.08	0.15	0.32
Basin D	1.07	A	65.0	0.48	0.50	0.51	0.54	0.58	0.62	0.67	300.00			0.005	23.71	80.00			0.005	20	1.41	0.94	24.65	15.99	15.99	1.83	2.44	3.04	4.01	4.87	5.81	8.43	0.93	1.30	1.67	2.33	3.01	3.83	6.06
Basin E	0.30	A	9.0	0.04	0.04	0.04	0.06	0.10	0.18	0.31	150.00			0.010	23.44	0.00			0.010	15	1.50	0.00	23.44	24.47	23.44	1.50	2.00	2.49	3.29	3.99	4.77	6.92	0.02	0.02	0.03	0.06	0.12	0.26	0.65
Basin F	2.24	A	54.0	0.38	0.39	0.41	0.44	0.49	0.53	0.60	300.00			0.005	27.82	285.00			0.005	20	1.41	3.36	31.18	20.88	20.88	1.59	2.13	2.65	3.50	4.25	5.08	7.37	1.34	1.88	2.43	3.47	4.63	6.03	9.94
Basin G	1.76	A	68.0	0.51	0.53	0.54	0.57	0.61	0.64	0.69	300.00			0.005	22.55	175.00			0.005	20	1.41	2.06	24.61	16.67	16.67	1.79	2.40	2.98	3.93	4.77	5.70	8.26	1.60	2.22	2.84	3.96	5.08	6.41	10.07
Basin H	0.29	A	5.0	0.02	0.02	0.02	0.03	0.07	0.15	0.29	190.00			0.010	26.91	0.00			0.010	15	1.50	0.00	26.91	25.15	25.15	1.44	1.93	2.40	3.16	3.84	4.59	6.65	0.01	0.01	0.02	0.03	0.08	0.20	0.55
Basin I	0.19	A	2.0	0.01	0.01	0.01	0.01	0.04	0.13	0.27	190.00			0.010	27.23	0.00			0.010	15	1.50	0.00	27.23	25.66	25.66	1.42	1.91	2.37	3.13	3.80	4.53	6.58	0.00	0.00	0.00	0.01	0.03	0.11	0.33
Basin J	1.12	A	58.0	0.41	0.43	0.45	0.48	0.52	0.56	0.63	247.00			0.010	19.02	0.00			0.010	20	2.00	0.00	19.02	16.14	16.14	1.82	2.43	3.02	3.99	4.84	5.79	8.40	0.84	1.17	1.51	2.14	2.83	3.64	5.91
Basin K	0.70	A	65.0	0.48	0.50	0.51	0.54	0.58	0.62	0.67	250.00			0.005	21.64	0.00			0.005	20	1.41	0.00	21.64	14.95	14.95	1.88	2.52	3.14	4.14	5.03	6.00	8.71	0.63	0.88	1.13	1.58	2.05	2.60	4.11
Basin L	0.38	A	8.0	0.03	0.03	0.04	0.05	0.09	0.17	0.31	170.00			0.010	25.09	0.00			0.010	15	1.50	0.00	25.09	24.64	24.64	1.46	1.95	2.42	3.20	3.88	4.64	6.73	0.02	0.03	0.04	0.06	0.14	0.30	0.78
Commercial Basin	1.52	A	80.0	0.63	0.65	0.66	0.69	0.71	0.73	0.77	300.00			0.005	17.78	200.00			0.005	20	1.41	2.36	20.14	14.73	14.73	1.90	2.54	3.16	4.17	5.06	6.04	8.77	1.81	2.50	3.18	4.35	5.44	6.72	10.24
CR12 Basin	0.57	A	78.0	0.61	0.63	0.64	0.67	0.69	0.72	0.76	300.00			0.003	22.00	150.00			0.003	20	1.10	2.28	24.29	15.03	15.03	1.88	2.52	3.13	4.13	5.01	5.99	8.69	0.65	0.90	1.15	1.57	1.97	2.45	3.75

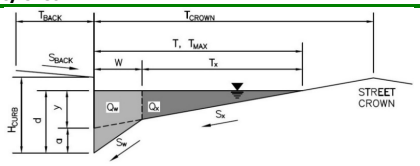
MHFD-Inlet, Version 5.01 (April 2021)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **The Flats at Lupton Village**

Inlet ID: **Interior Street Capacity Check**



Gutter Geometry:			
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	20.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.050	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.012	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.005	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	18.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☑	

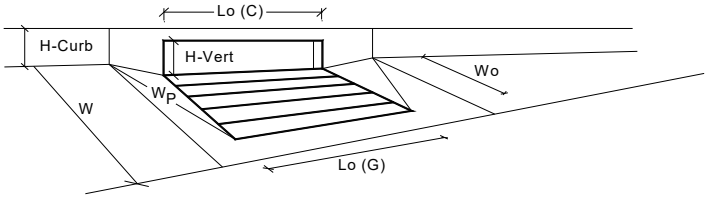
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**2.4**	**261.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



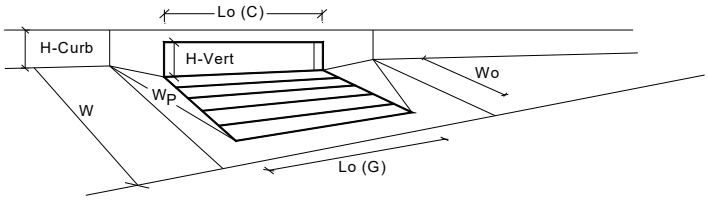
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.51	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.91**	**15.74**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.88	6.03	cfs

Note:

- A Single Type R Inlet will be installed to capture the flow in Basins D,F,J and K (See Exhibit E - Drainage Basins).
- Basin F represents the worst case scenario accepting 6.03 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin F is analyzed in the above inlet capacity chart.
- As a Single Type R Inlet is sufficient for the worst case scenario, it will be sufficient for all four proposed Single Type R Inlets.

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



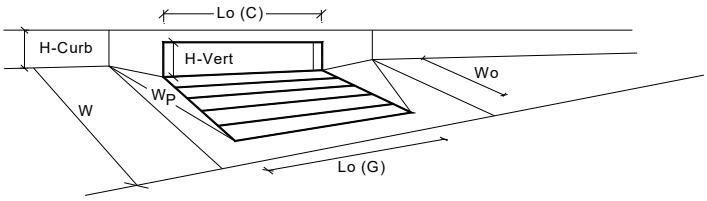
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.38	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.79	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**3.13**	**32.79**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.20	6.40	cfs

Note:

- A Double Type R Inlet will be installed to capture the flow in Basins B and G (See Exhibit E - Drainage Basins).
- Basin G represents the worst case scenario accepting 6.41 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin G is analyzed in the above inlet capacity chart.
- As a Double Type R Inlet is sufficient for the worst case scenario, it will be sufficient for both proposed Double Type R Inlets.

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)

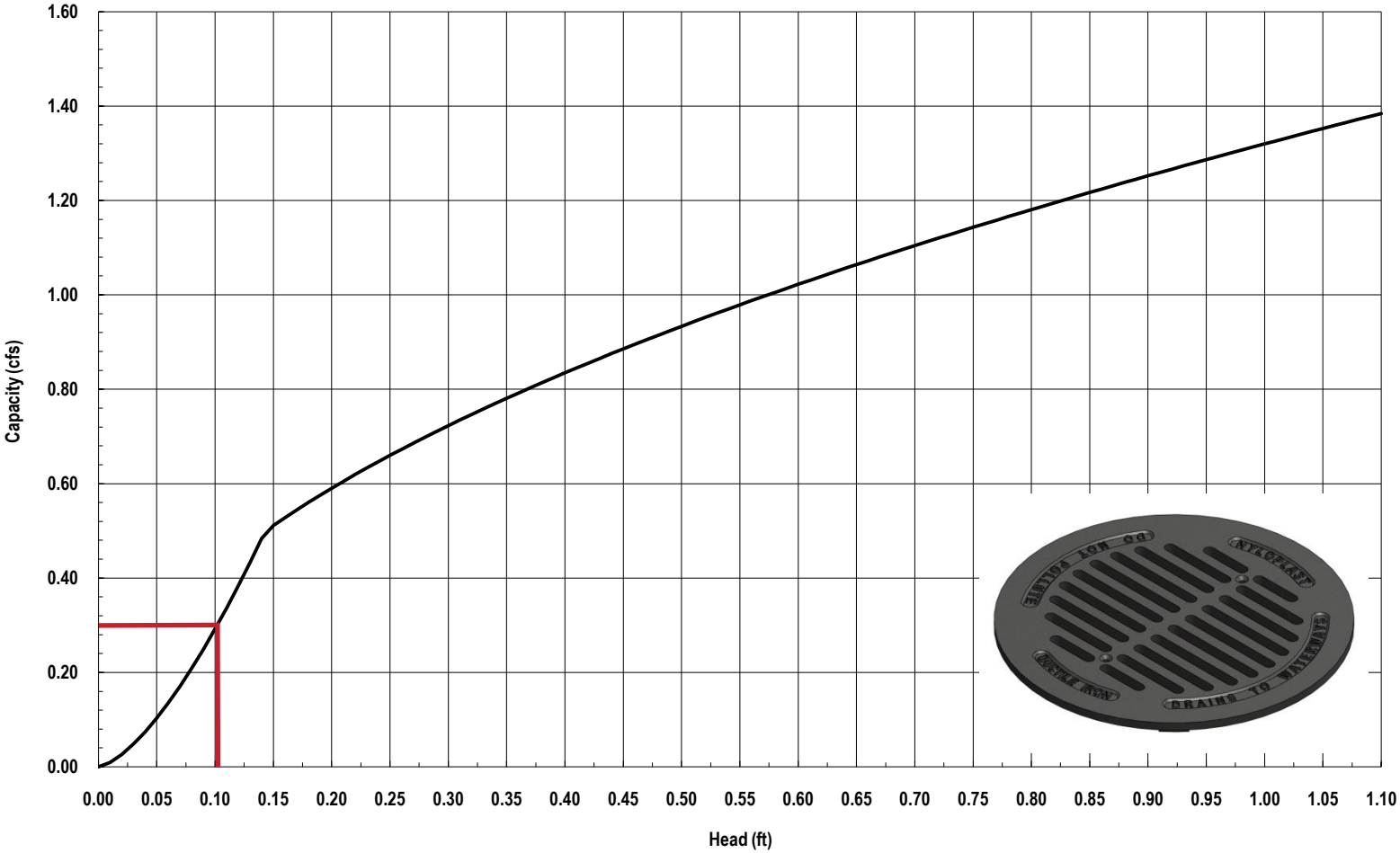


Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.38**	**14.95**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.90	2.45	cfs

Note:

- A Single Type R Inlet will be installed to capture the flow in Basin CR12 (See Exhibit E - Drainage Basins).
- Basin CR12 accepts 2.45 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin CR12 is analyzed in the above inlet capacity chart.
- A Single Type R Inlet is sufficient to accept flow from Basin CR12.

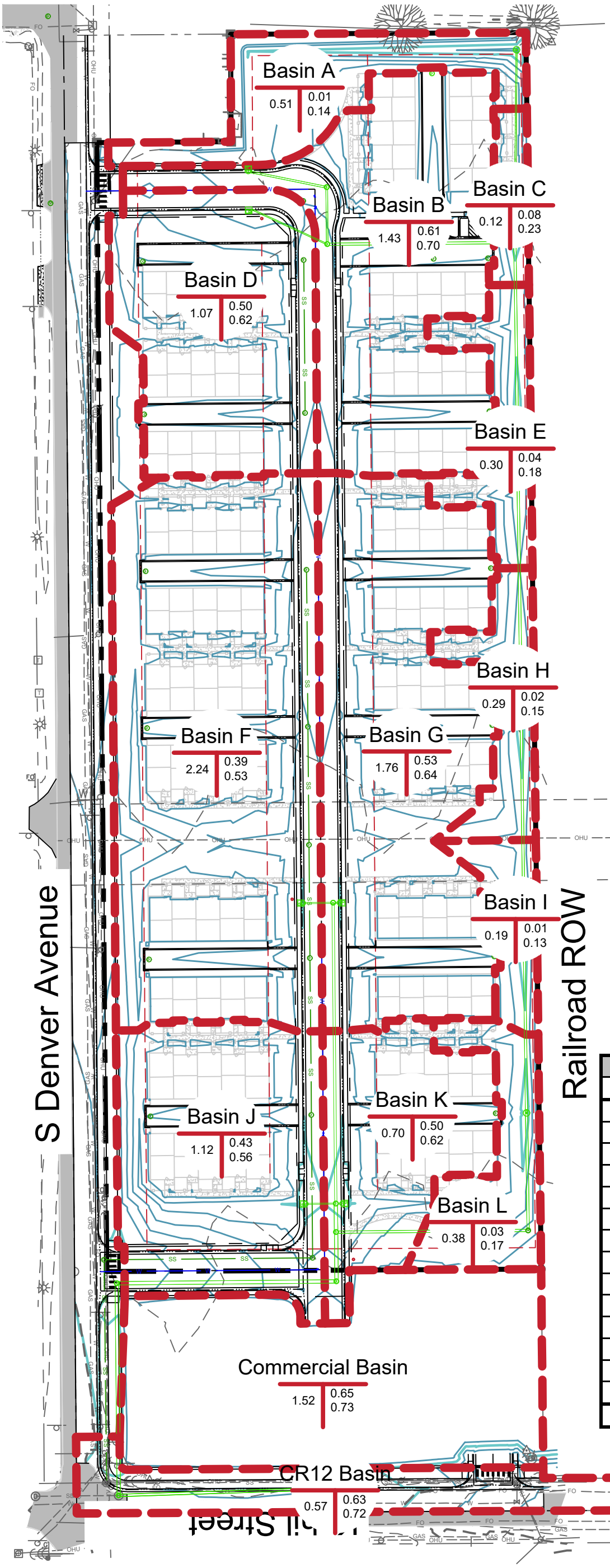
Nyloplast 12" Drop In Grate Inlet Capacity Chart

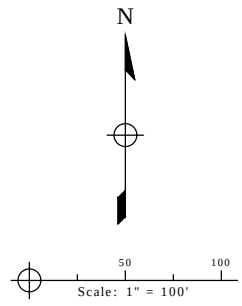


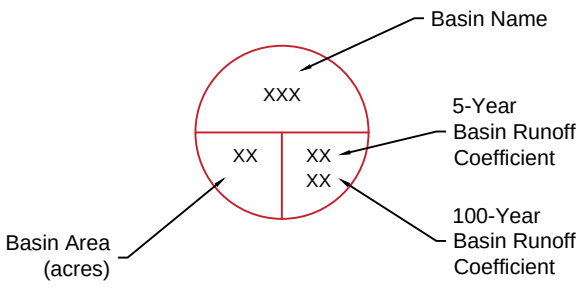
Note:

- A Nyloplast 12" Inlet will be installed to capture the flow in Basins A, C, E, H, I, and L (See Exhibit E - Drainage Basins).
- Basins A and L represent the worst case scenario, both accepting 0.3 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basins A and L are represented on the above chart, a Nyloplast 12" Inlet can accept 0.3 cfs with approximately 0.11' of head.
- As a Nyloplast 12" Inlet is sufficient for the worst case scenarios, it will be sufficient for all six proposed Nyloplast 12" Inlets.

The Flats at Lupton Village	**Exhibit D (Page 4 of 4) - Inlet Capacity Nyloplast 12" Inlet**	LAND ONE engineering 970-632-2311







Peak Flow Analysis On-Site (cfs)		
Basin	Minor Event (5-yr)	Major Event (100-yr)
A	0.01	0.30
B	2.19	6.03
C	0.02	0.15
D	1.30	3.83
E	0.02	0.26
F	1.88	6.03
G	2.22	6.41
H	0.01	0.20
I	0.00	0.11
J	1.17	3.64
K	0.88	2.60
L	0.03	0.30
Commercial Basin	2.50	6.72
CR12 Basin	0.90	2.45
Proposed Total	13.13	39.03

The Flats at Lupton Village

Exhibit E - Drainage Basins

LAND ONE engineering
970-632-2311

STORM DRAINAGE SYSTEM DESIGN (RATIONAL METHOD PROCEDURE)

Project:
Date: 28-Jan-20
Design Storm: 100-YR

Project Name Kahil West Extension

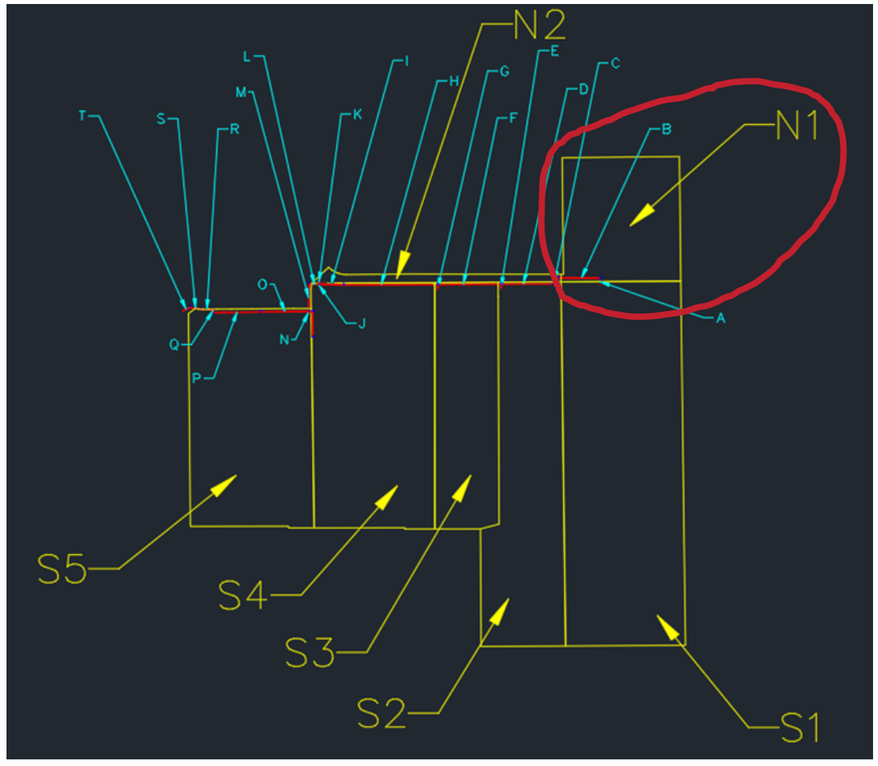
a=
b=
m=

IDF Eq I = a/(t+b)^m

Calculated By: MP
Checked By:

DESIGN CONDITIONS (100-YR)

		DIRECT RUNOFF							PIPE/CHANNEL			TRAVEL TIME				TOTAL RUNOFF			
DESIGN POINT	PIPE	BASIN	AREA (AC)	RUNOFF COEFFICIENT	t_c (MIN)	C x A (AC)	I (IN/HR)	Q (CFS)	DESIGN FLOW (CFS)	SLOPE (%)	CHANNEL WIDTH / PIPE SIZE (IN)	LENGTH (FT)	V (FPS)	t_t (MIN)	FULLNESS OF PIPE (%)	t_c (MIN)	Σ (C x A) (AC)	I (IN/HR)	Q (CFS)
	A	PREEXIST	0.39	0.76	5.0	0.30	8.73			0.2	18	40.52	3.1	0.2	48.2	5.2	0.30	8.65	2.6
	B	N1	9.57	0.72	15.1	6.91	5.83	40.3	40.3	0.7	36	182.34	10.0	0.3	55.5	15.4	6.91	5.79	40.0
	C	S1	28.19	0.60	23.0	17.00	4.89			3.5	30	43.71	17.3	0.0	94.0	23.0	17.00	4.88	83.0
	D								125.6	1.0	42	72.35	13.4	0.1	94.0	23.1	23.61	4.87	115.0
	F								115.0	0.4	48	289.82	9.4	0.5	94.0	23.6	23.61	4.81	113.5
	G	S2	16.84	0.54	18.9	9.02	5.37	48.4	48.4	2.84	24	54.29	10.1	0.1	94.0	19.0	9.02	5.36	48.3
	H								161.9	0.3	54	367.64	10.3	0.6	74.3	24.2	32.63	4.74	154.6
	I	S3	10.27	0.62	17.5	6.39	5.54	35.4	35.4	1.5	24	28.20	11.6	0.0	94.0	17.5	6.39	5.54	35.4
	J								154.6	0.6	60	468.28	9.6	0.8	76.5	25.0	32.63	4.64	151.4
	K								151.4	0.5	60	119.37	9.4	0.2	76.5	25.2	32.63	4.61	150.5
	L	S4.1	0.23	0.90	13.5	0.21	6.19	1.3	1.3	4.8	18	28.78	7.0	0.1	16.2	13.5	0.21	6.17	1.3
	M	N2	1.36	0.65	12.3	0.89	6.45	5.7	5.7	5.4	18	9.55	11.3	0.0	32.8	12.3	0.89	6.45	5.7
	N								157.5	0.4	60	64.43	9.8	0.1	76.5	25.3	33.72	4.60	155.1
	O								155.1	0.5	60	163.00	10.5	0.3	70.3	25.6	33.72	4.57	154.1
	O.1	S4	19.41	0.62	17.2	12.02	5.58	67.1	67.1	0.6	36	138.31	9.7	0.2	94.0	17.4	12.02	5.55	66.8
	O.2								66.8	0.6	36	18.25	9.7	0.0	94.0	17.4	12.02	5.55	66.7
	5.1	S5.1	1.86	0.66	16.0	1.23	5.73	7.1	7.1	20.4	18	21.23	19.3	0.0	26.2	16.0	1.23	5.62	6.9
	Q								227.7	0.4	66	218.71	9.8	0.4	94.0	26.0	46.98	4.52	212.5
	5.2	S5.2	4.75	0.66	17.8	3.16	5.51	17.4	17.4	22.2	18	21.36	25.6	0.0	40.9	17.8	3.16	5.51	17.4
	R								229.9	0.4	66	249.99	9.9	0.4	94.0	26.4	50.14	4.47	224.3
	5.3	S5.3	4.50	0.66	18.5	2.99	5.42	16.2	16.2	24.1	18	20.84	25.8	0.0	38.5	18.5	2.99	5.42	16.2
	R.1								240.6	0.4	66	37.96	10.4	0.1	94.0	26.4	53.13	4.47	237.3
	5.4	S5.4	1.31	0.66	17.8	0.87	5.51	4.8	4.8	17.1	18	25.98	16.2	0.0	22.5	17.8	0.87	5.50	4.8
	S								242.1	0.4	66	17.65	10.5	0.0	94.0	26.4	54.00	4.47	241.4
	T								241.4	0.4	66	67.68	10.4	0.1	94.0	26.5	54.00	4.46	240.7
	U								240.7	0.4	66	57.70	10.4	0.1	94.0	26.6	54.00	4.45	240.1
	5.5	S5.5	2.53	0.66	13.7	1.68	5.30	8.9	8.9	8.6	18	38.26	15.1	0.0	36.9	13.7	1.68	6.13	10.3
	W								250.4	0.5	66	86.84	10.8	0.1	94.0	26.7	55.68	4.43	246.7



Flats at Lupton Village

NE Quadrant of Denver Avenue and Kahil Street
Fort Lupton, CO

Traffic Impact Study

KE Job #2022-018

Prepared for:

LandOne Engineering, LLC
361 71st Avenue, Suite 100
Greeley, CO 80634

Prepared by:

KELLAR ENGINEERING

skellar@kellarengineering.com
970.219.1602 phone



February 18, 2022

Sean K. Kellar, PE, PTOE

This document, together with the concepts and recommendations presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization from Kellar Engineering LLC shall be without liability to Kellar Engineering LLC.

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1.0 Introduction

The purpose of this Traffic Impact Study (TIS) is to identify project traffic generation characteristics, to identify potential traffic related impacts on the adjacent street system, and to develop mitigation measures required for identified traffic impacts. This TIS is for the proposed Flats at Lupton Village project located at the northeast quadrant of Denver Avenue and Kahil Street in Fort Lupton, Colorado. See Figure 1: Vicinity Map.

Kellar Engineering LLC (KE) has prepared the TIS to document the results of the project's anticipated traffic conditions in accordance with the City of Fort Lupton's requirements and to identify projected impacts to the local and regional traffic system.

2.0 Existing Conditions and Roadway Network

The project site is located north of Kahil Street on the east side of Denver Avenue in Fort Lupton, CO. Denver Avenue is a 2 lane north-south collector street with a posted speed of 30 mph near the project site. Denver Avenue is classified as a retail street in the Transportation Plan. Additionally, Kahil Street is an east-west 30 mph collector street south of the project site. Kahil Street is classified as an urban collector in the Transportation Plan. See Figure 2: Site Plan and Appendix B.

2.1 Existing Traffic Volumes

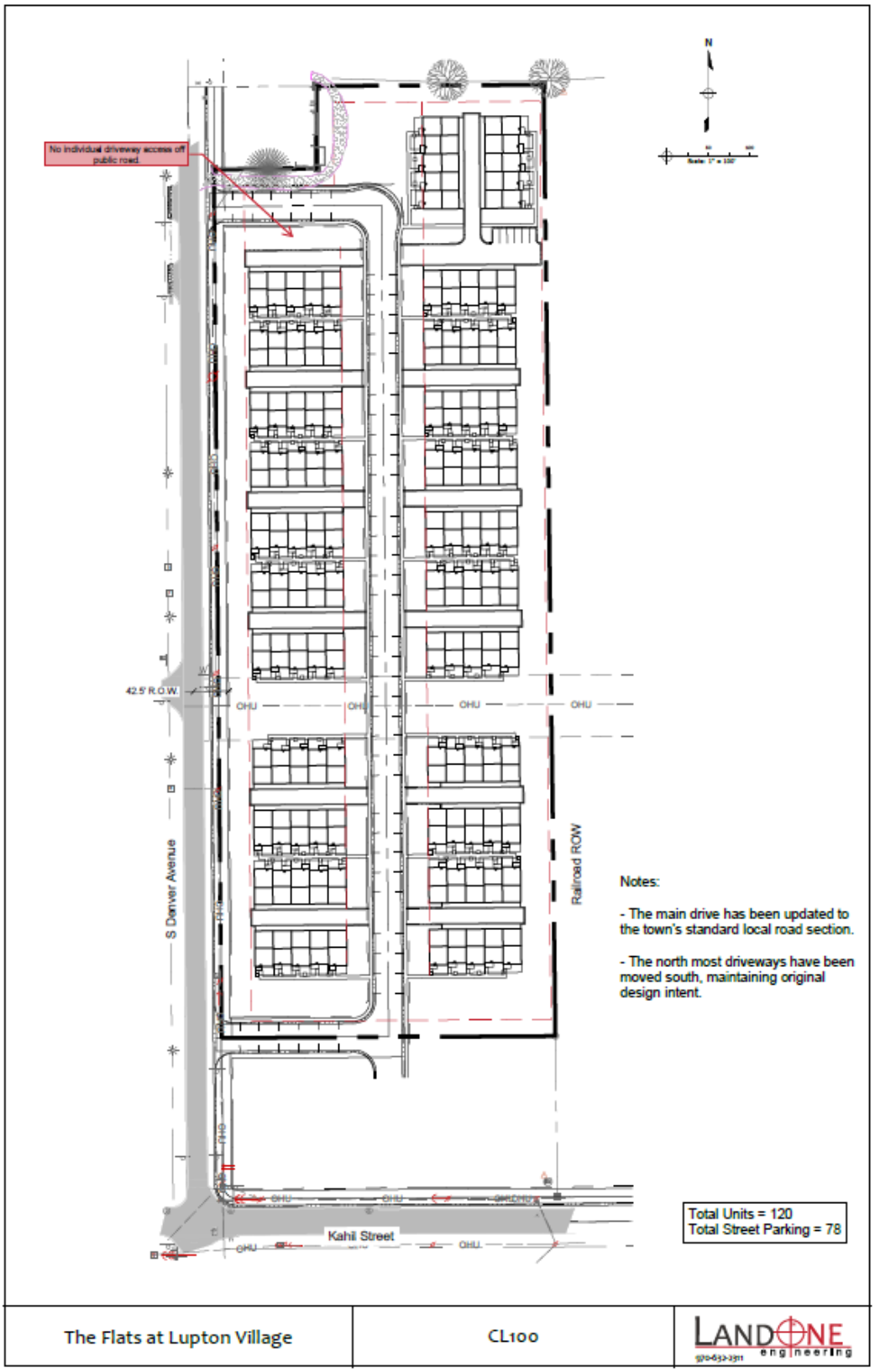
Existing peak hour traffic volume counts were conducted using data collection cameras on Thursday, January 27, 2022. The traffic counts were conducted to capture the peak hours of the adjacent street traffic. These turning movement counts are shown in Figure 3 with the count sheets provided in Appendix A.

Figure 1: Vicinity Map



Google Earth

Figure 2: Site Plan



3.0 Proposed Development

The proposed project consists of approximately 120 townhome dwelling units. See Table 1: Trip Generation and Figure 2: Site Plan.

4.1 Trip Generation

Site generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). ITE has established trip generation rates in nationwide studies of similar land uses. For this study, KE used the *ITE 10th Edition Trip Generation Manual* average trip rates. Since traffic on the adjacent streets and intersections is highest during the weekday peak hours, this study analyzed the weekday peak hour traffic. The proposed project is anticipated to generate approximately 878 daily weekday trips, 56 AM total peak hour trips, and 67 PM total peak hour trips. See Table 1: Trip Generation.

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, anticipated surrounding development areas, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site generated traffic that approaches the site from a given direction and departs the site back to the original source. Figure 6 illustrates the trip distribution used for the project's analysis.

4.3 Traffic Assignment

Traffic assignment was obtained by applying the trip distributions to the estimated trip generation of the development. Figures 7 shows the site generated peak hour traffic assignment.

4.4 Short Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the short range 2025 horizon. These background (2025) and short range (2025) total traffic volumes are shown in Figures 4 and 8. The short range analysis year 2025 includes the proposed development for this project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS).

4.5 Long Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the long range 2040 horizon. These background (2040) and long range (2040) total traffic volumes are shown in Figures 5 and 9. The long range analysis year 2040 includes the proposed development for the project plus project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS).

5.0 Traffic Operation Analysis

KE's analysis of traffic operations in the site vicinity was conducted to determine the capacity at the identified intersection. The acknowledged source for determining overall capacity is the Highway Capacity Manual.

5.1 Analysis Methodology

Capacity analysis results are listed in terms of level of service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. LOS ranges from an A (very little delay) to an F (long delays). A description of the level of service (LOS) for signalized and unsignalized intersections from the Highway Capacity Manual are provided in Appendix E.

5.2 Intersection Operational Analysis

Operational analysis was performed for the short range 2025 horizon and the long range 2040 horizon. The calculations for this analysis are provided in Appendix E. Using the short range total traffic volumes, the project is projected to operate acceptably with all studied intersections and access points meeting the City's LOS criteria. See Table 4: 2025 Short Range Total Peak Hour Operation.

Table 1: Trip Generation (ITE Trip Generation, 10th Edition)

ITE Code	Land Use		Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
		Size	Rate	Total	Rate	% In	In	% Out	Out	Total	Rate	% In	In	% Out	Out	Total
220	Townhomes	120 DU	7.32	878	0.46	23%	13	77%	43	56	0.56	63%	42	37%	25	67
Total				**878**			**13**		**43**	**56**			**42**		**25**	**67**

DU = Dwelling Units

Figure 3: Recent Peak Hour Traffic

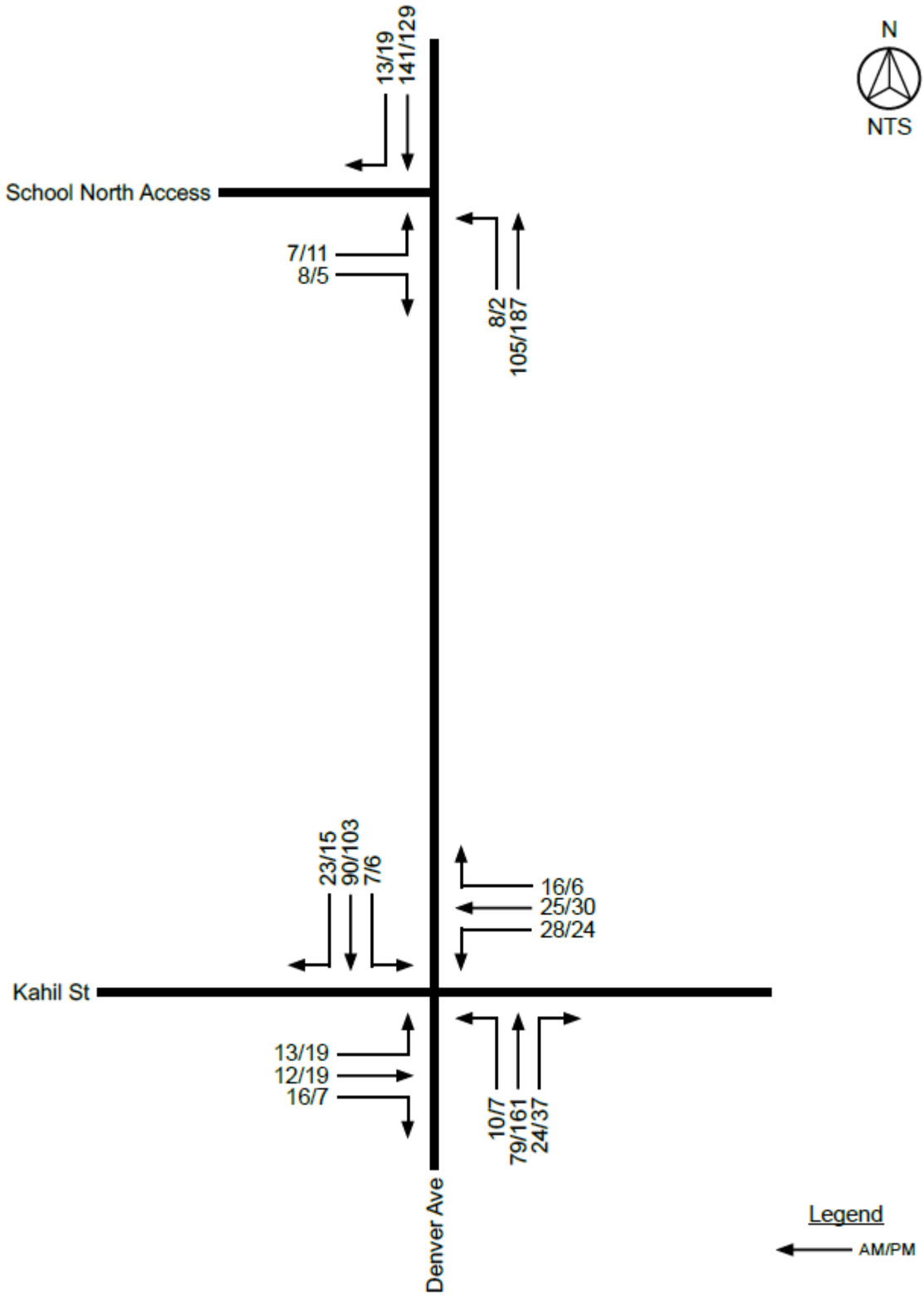


Figure 4: 2025 Background Traffic

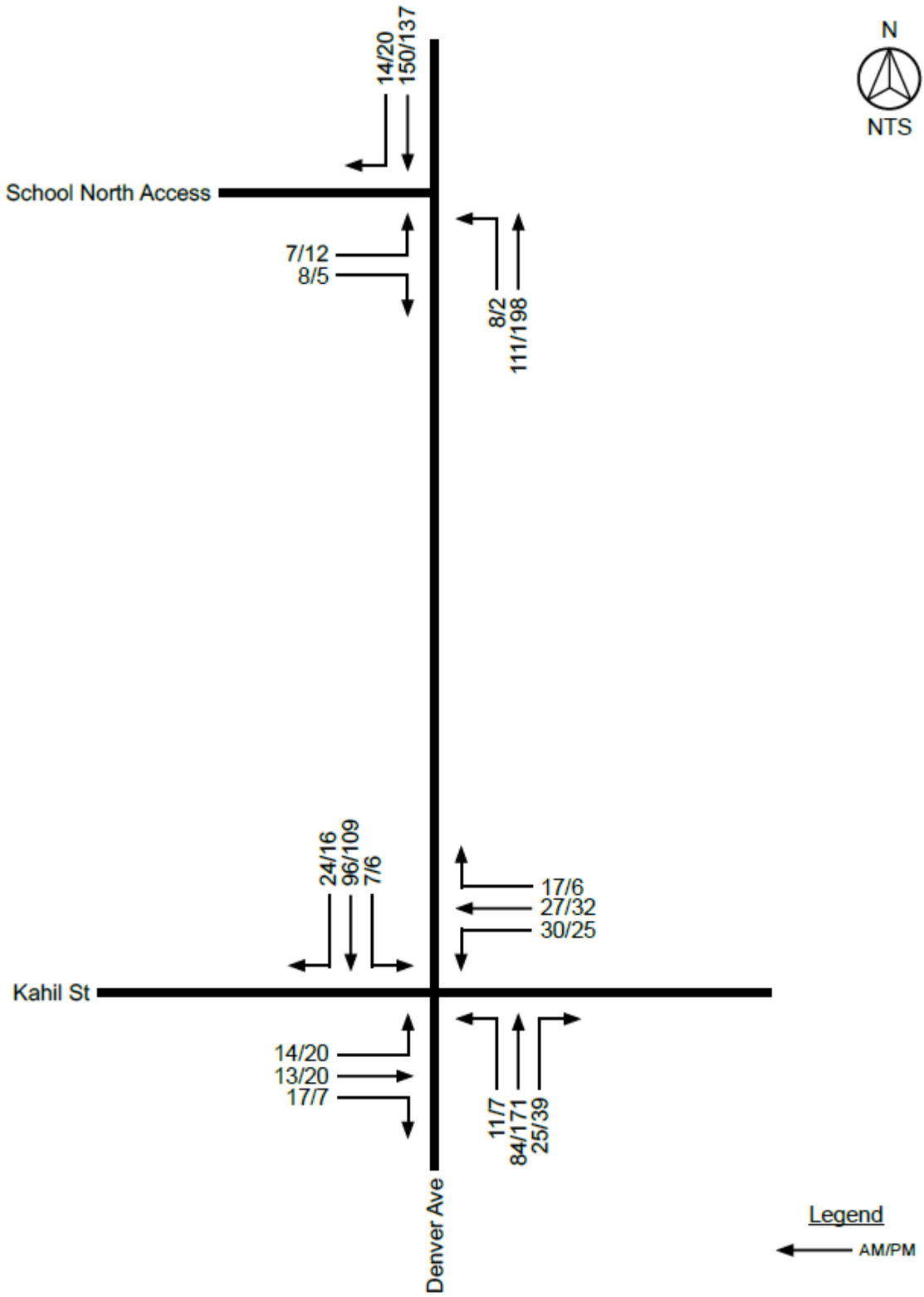


Figure 5: 2040 Background Traffic

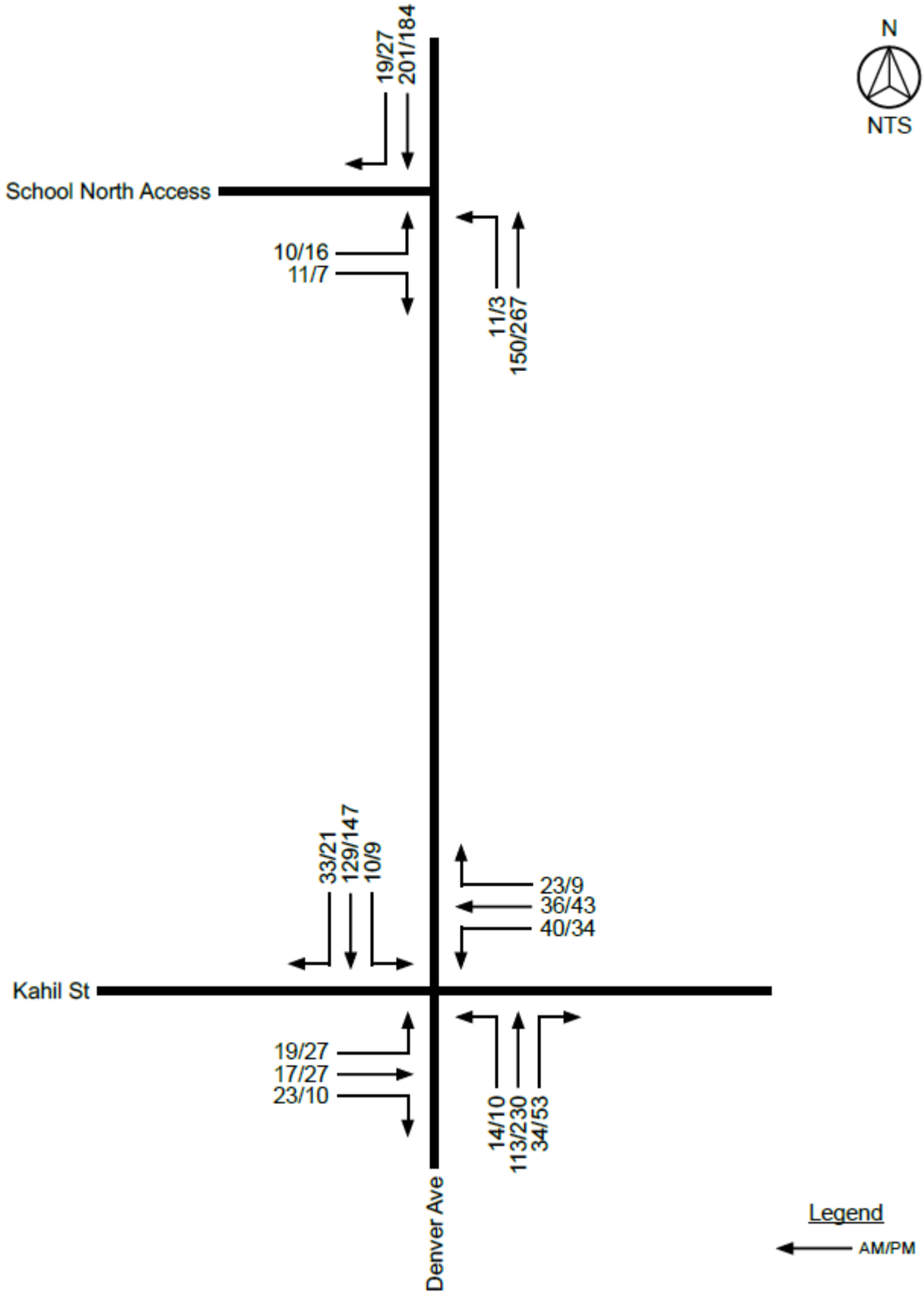


Figure 6: Trip Distribution

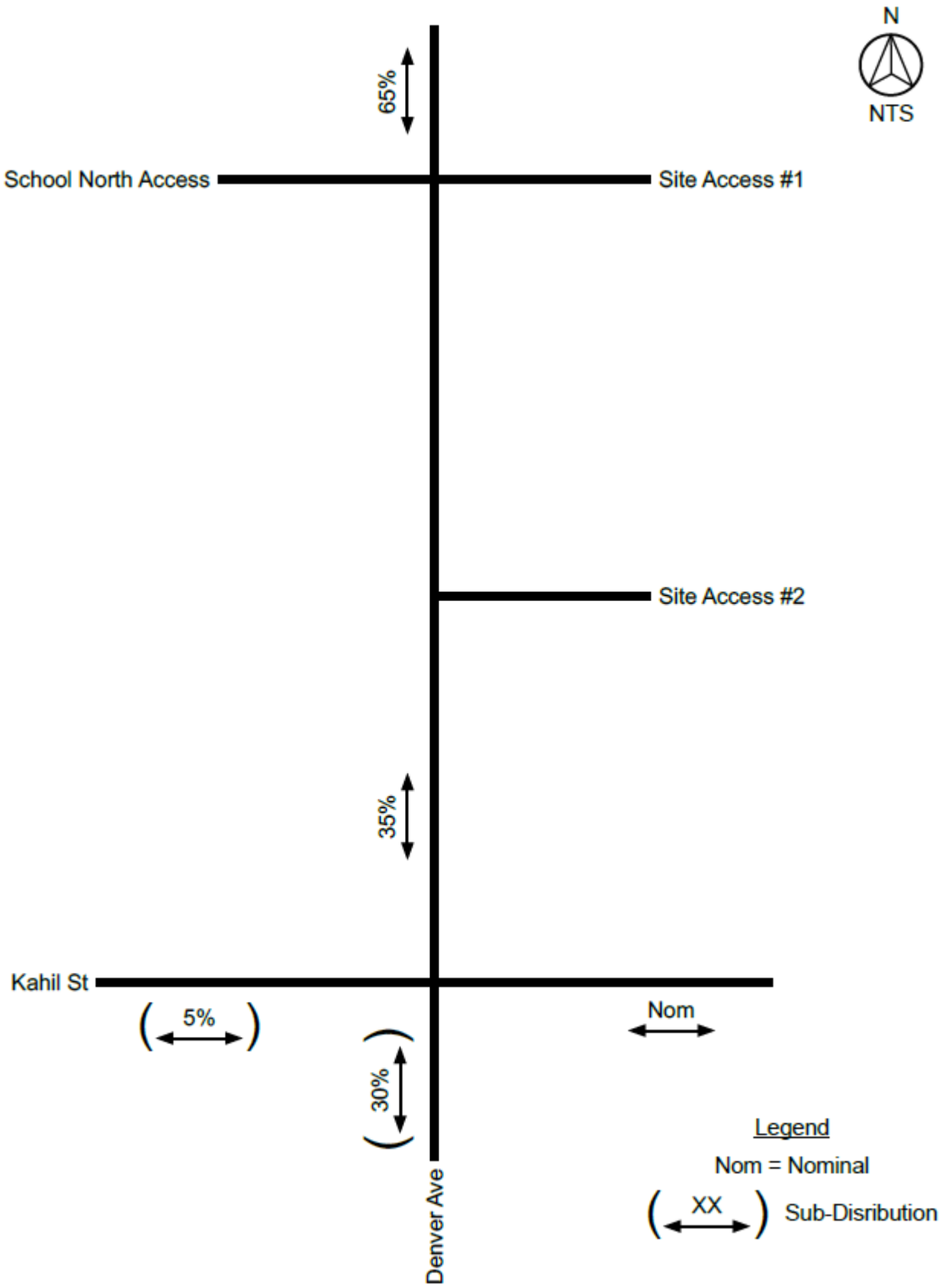


Figure 7: Site Generated Traffic

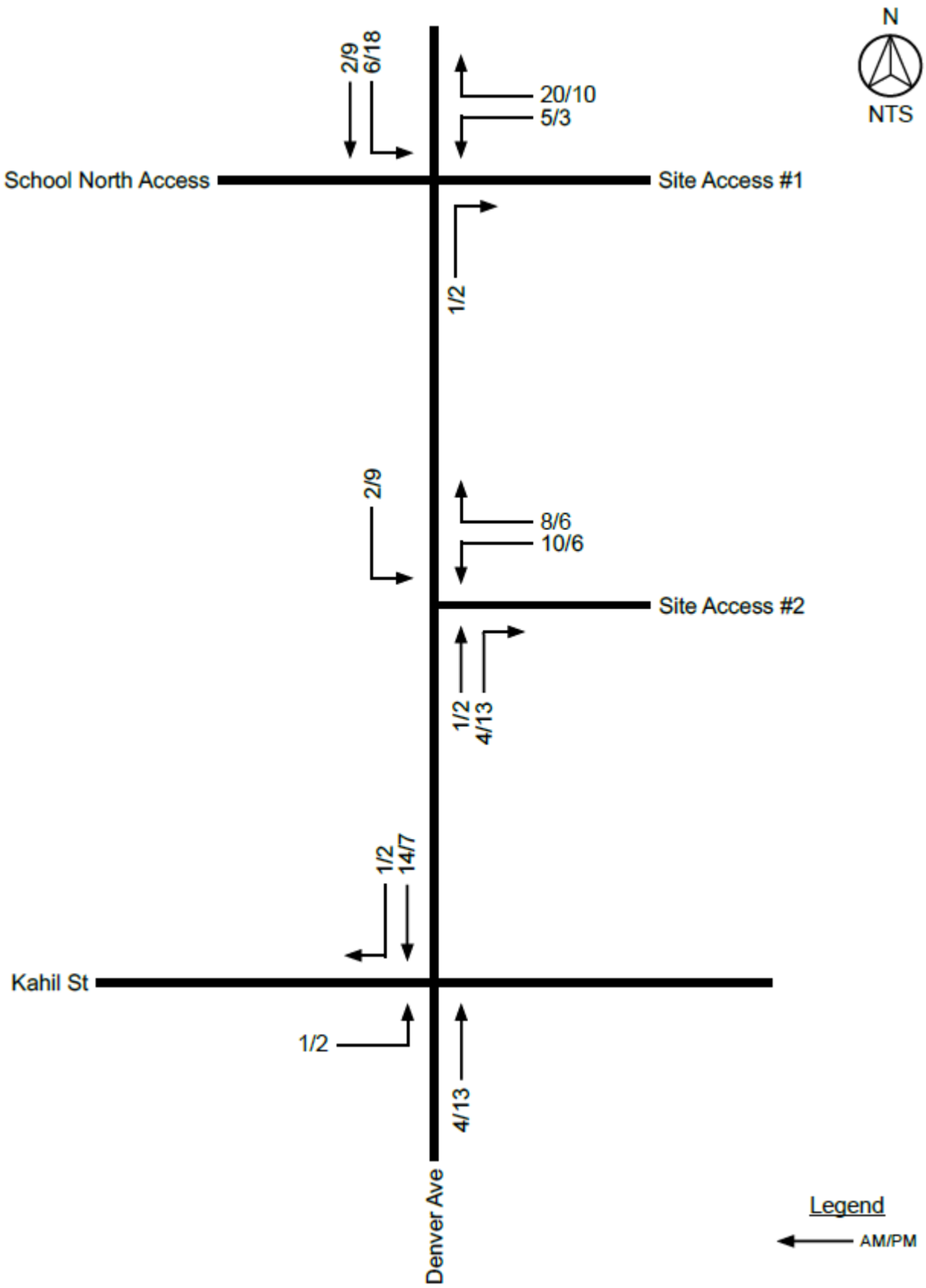


Figure 8: 2025 Short Range Total Traffic

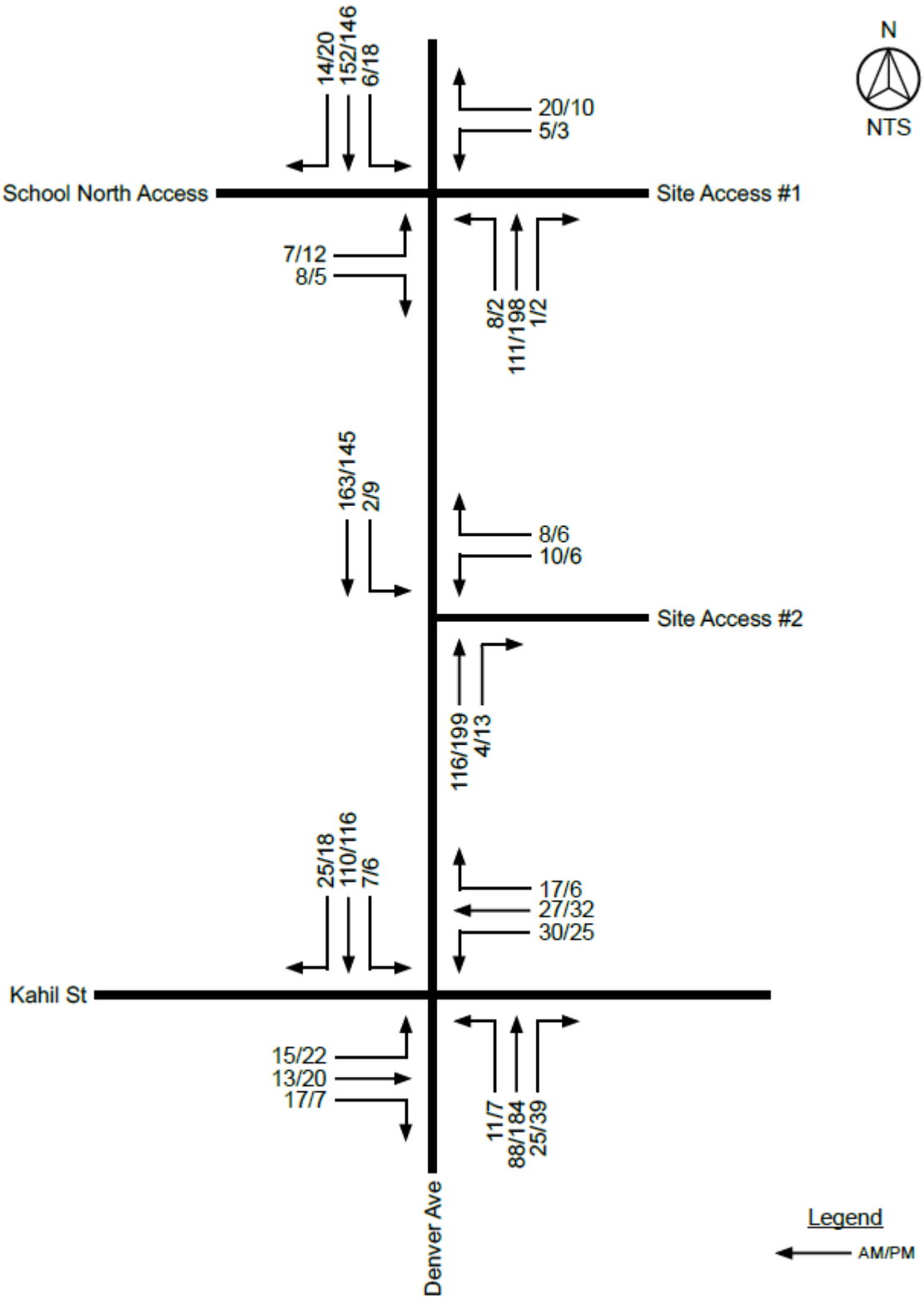


Figure 9: 2040 Long Range Total Traffic

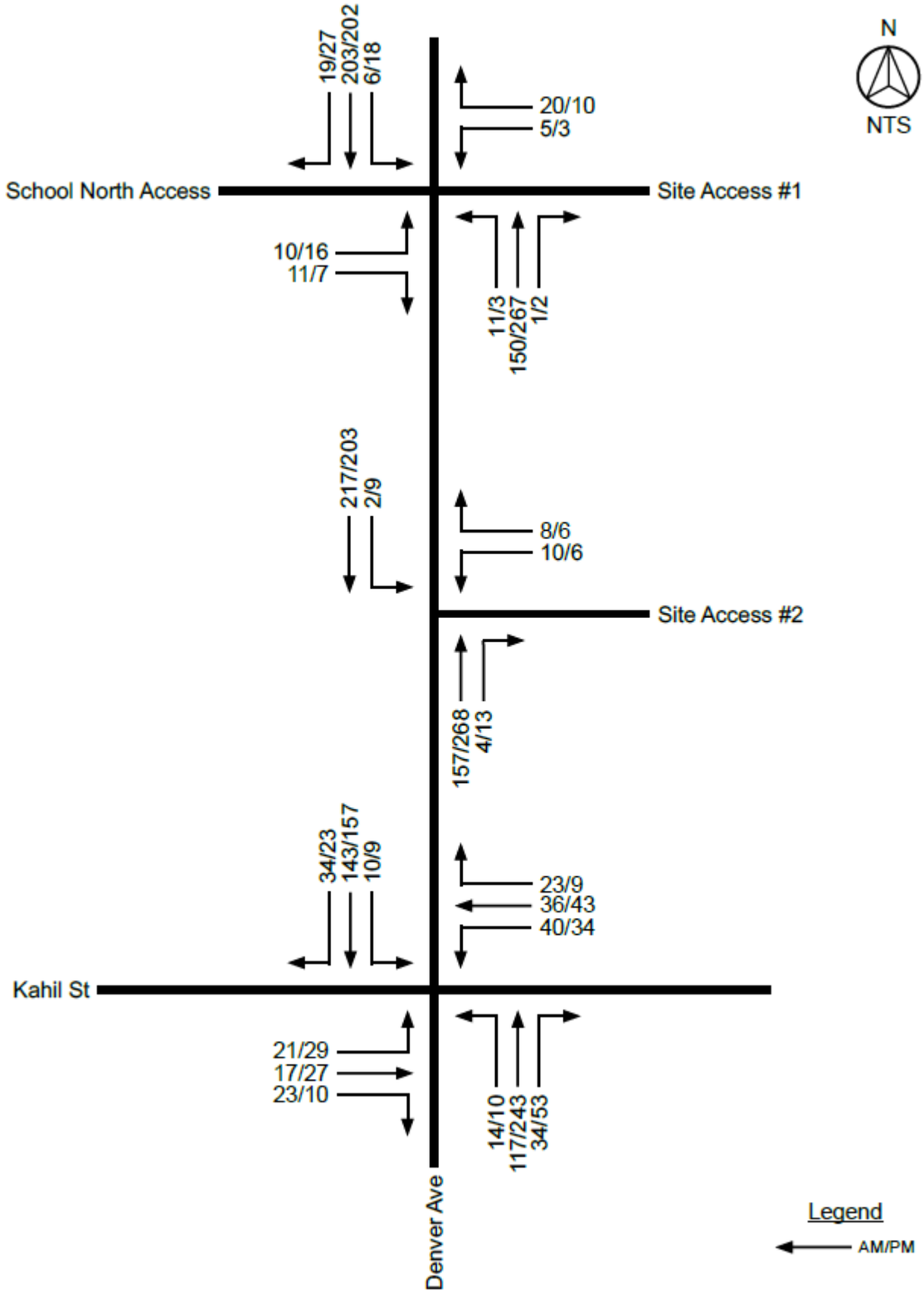


Table 2: Recent Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	A	B
	EB Approach	A	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 3: 2025 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	A	B
	EB Approach	A	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 4: 2025 Short Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access/Site Access #1			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	A	B
	WB Approach	A	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Site Access #2			
	WB Left	B	B
	WB Right	A	A
	WB Approach	A	B
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru	A	A
	SB Approach	A	A

Table 5: 2040 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	B	B
	EB Approach	B	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 6: 2040 Long Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access/Site Access #1			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	A	B
	WB Approach	A	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Site Access #2			
	WB Left	B	B
	WB Right	A	A
	WB Approach	B	B
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru	A	A
	SB Approach	A	A

6.0 Findings

Based upon the analysis presented in this Traffic Impact Study (TIS), the proposed Flats at Lupton Village project located at the northeast quadrant of Denver Avenue and Kahil Street in Fort Lupton, Colorado will be able to be successfully meet the City of Fort Lupton's requirements for traffic at the time of development. All studied intersections are projected to operate acceptably upon full development of the proposed project.

The findings of the TIS are summarized below:

- The proposed project is anticipated to generate approximately 878 daily weekday trips, 56 AM total peak hour trips, and 67 PM total peak hour trips.
- The project complies with the City's Levels of Service (LOS) requirements for traffic, and the City's Transportation Plan.
- The study intersections will operate acceptably and comply with the City's intersection levels of service (LOS) requirements with the development of the project and background traffic in the 2025 Short Range Total future.
- The existing street improvements are sufficient to accommodate the proposed project's traffic.

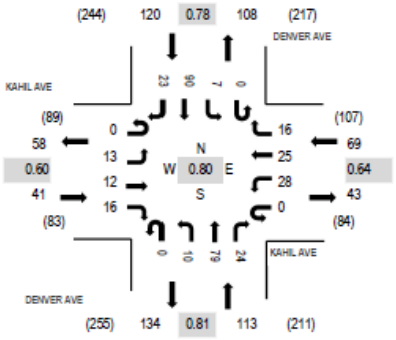
APPENDICES:

Appendix A: Recent Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

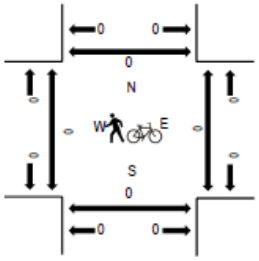
Location: 1 DENVER AVE & KAHIL AVE AM
Date: Thursday, January 27, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



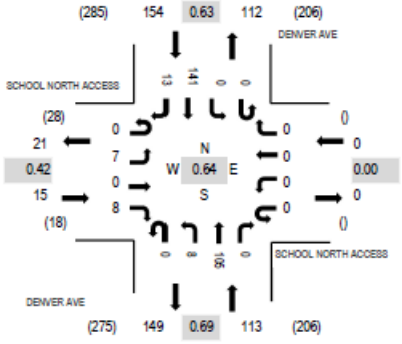
Traffic Counts

Interval Start Time	KAHIL AVE Eastbound				KAHIL AVE Westbound				DENVER AVE Northbound				DENVER AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	4	1	0	5	3	4	0	2	26	3	0	6	23	1	82	337	0	0	0	0
7:15 AM	0	4	4	4	0	5	11	11	0	3	21	8	0	3	26	7	107	343	0	0	0	0
7:30 AM	0	1	2	3	0	4	9	1	0	3	18	2	0	2	28	6	79	336	0	0	0	0
7:45 AM	0	6	3	3	0	8	3	2	0	0	17	6	0	2	17	2	69	324	0	0	0	0
8:00 AM	0	2	3	6	0	11	2	2	0	4	23	8	0	0	19	8	88	308	0	0	0	0
8:15 AM	0	11	8	2	0	3	3	2	0	2	27	2	0	4	31	5	100		0	0	0	0
8:30 AM	0	3	3	0	0	5	3	1	0	3	17	3	0	4	23	2	67		0	0	0	0
8:45 AM	0	3	1	2	0	4	4	1	0	1	10	2	0	1	22	2	53		0	0	0	0
Count Total	0	34	28	21	0	45	38	24	0	18	159	34	0	22	189	33	645		0	0	0	0
Peak Hour	0	13	12	16	0	28	25	16	0	10	79	24	0	7	90	23	343		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

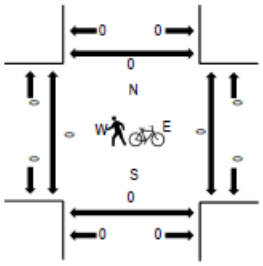
Location: 2 DENVER AVE & SCHOOL NORTH ACCESS AM
Date: Thursday, January 27, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk

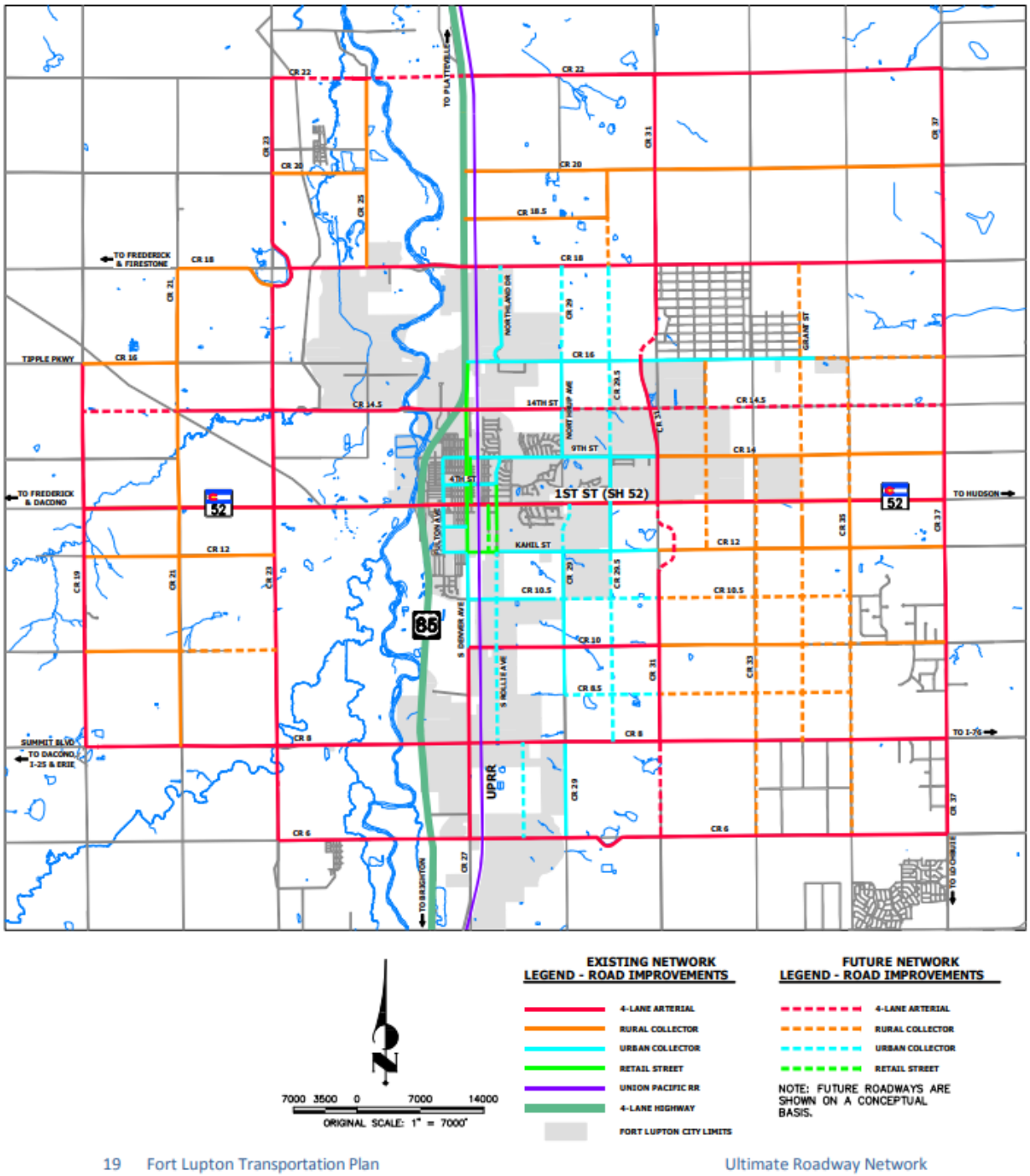


Traffic Counts

Interval Start Time	SCHOOL NORTH ACCESS Eastbound				SCHOOL NORTH ACCESS Westbound				DENVER AVE Northbound				DENVER AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	2	0	0	0	0	0	4	25	0	0	0	35	3	69	282	0	0	0	0
7:15 AM	0	6	0	3	0	0	0	0	0	3	38	0	0	0	53	8	111	270	0	0	0	0
7:30 AM	0	1	0	1	0	0	0	0	0	0	19	0	0	0	35	1	57	235	0	0	0	0
7:45 AM	0	0	0	2	0	0	0	0	0	1	23	0	0	0	18	1	45	231	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	25	0	0	0	30	2	57	227	0	0	0	0
8:15 AM	0	1	0	1	0	0	0	0	0	0	33	0	0	0	41	0	76		0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	1	20	0	0	0	27	4	53		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	14	0	0	0	27	0	41		0	0	0	0
Count Total	0	9	0	9	0	0	0	0	0	9	197	0	0	0	266	19	509		0	0	0	0
Peak Hour	0	7	0	8	0	0	0	0	0	8	105	0	0	0	141	13	282		0	0	0	0

Appendix B: Excerpt from Transportation Plan

Figure 9: Ultimate Roadway Network



Appendix C: Level of Service (LOS) Table

Level of Service Definitions

Level of Service (LOS)	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Appendix D: Aerial Image



Google Earth

Appendix E: HCM Calculations (Synchro)

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	8	105	141	13
Future Vol, veh/h	7	8	8	105	141	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	9	9	114	153	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	292	160	167	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	699	885	1411	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	694	885	1411	-	-	-
Mov Cap-2 Maneuver	694	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1411	-	784	-	-
HCM Lane V/C Ratio	0.006	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	12	16	28	25	16	10	79	24	7	90	23
Future Vol, veh/h	13	12	16	28	25	16	10	79	24	7	90	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	13	17	30	27	17	11	86	26	8	98	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	270	261	111	263	260	99	123	0	0	112	0	0
Stage 1	127	127	-	121	121	-	-	-	-	-	-	-
Stage 2	143	134	-	142	139	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	683	644	942	690	645	957	1464	-	-	1478	-	-
Stage 1	877	791	-	883	796	-	-	-	-	-	-	-
Stage 2	860	785	-	861	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	642	635	942	660	636	957	1464	-	-	1478	-	-
Mov Cap-2 Maneuver	642	635	-	660	636	-	-	-	-	-	-	-
Stage 1	870	786	-	876	790	-	-	-	-	-	-	-
Stage 2	809	779	-	826	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.8	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1464	-	-	730	701	1478	-	-
HCM Lane V/C Ratio	0.007	-	-	0.061	0.107	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.3	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	5	2	187	129	19
Future Vol, veh/h	11	5	2	187	129	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	5	2	203	140	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	358	151	161	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	640	895	1418	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	639	895	1418	-	-	-
Mov Cap-2 Maneuver	639	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1418	-	702	-	-
HCM Lane V/C Ratio	0.002	-	0.025	-	-
HCM Control Delay (s)	7.5	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	19	7	24	30	6	7	161	37	6	103	15
Future Vol, veh/h	19	19	7	24	30	6	7	161	37	6	103	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	21	8	26	33	7	8	175	40	7	112	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	365	365	120	360	353	195	128	0	0	215	0	0
Stage 1	134	134	-	211	211	-	-	-	-	-	-	-
Stage 2	231	231	-	149	142	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	591	563	931	596	572	846	1458	-	-	1355	-	-
Stage 1	869	785	-	791	728	-	-	-	-	-	-	-
Stage 2	772	713	-	854	779	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	556	556	931	569	565	846	1458	-	-	1355	-	-
Mov Cap-2 Maneuver	556	556	-	569	565	-	-	-	-	-	-	-
Stage 1	864	780	-	786	724	-	-	-	-	-	-	-
Stage 2	727	709	-	820	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	11.9	0.3	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	593	586	1355	-	-
HCM Lane V/C Ratio	0.005	-	-	0.082	0.111	0.005	-	-
HCM Control Delay (s)	7.5	0	-	11.6	11.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	8	111	150	14
Future Vol, veh/h	7	8	8	111	150	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	9	9	121	163	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	310	171	178	0	-	0
Stage 1	171	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	682	873	1398	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	677	873	1398	-	-	-
Mov Cap-2 Maneuver	677	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	888	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1398	-	769	-	-
HCM Lane V/C Ratio	0.006	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	13	17	30	27	17	11	84	25	7	96	24
Future Vol, veh/h	14	13	17	30	27	17	11	84	25	7	96	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	14	18	33	29	18	12	91	27	8	104	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	285	275	117	278	275	105	130	0	0	118	0	0
Stage 1	133	133	-	129	129	-	-	-	-	-	-	-
Stage 2	152	142	-	149	146	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	667	632	935	674	632	949	1455	-	-	1470	-	-
Stage 1	870	786	-	875	789	-	-	-	-	-	-	-
Stage 2	850	779	-	854	776	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	624	623	935	642	623	949	1455	-	-	1470	-	-
Mov Cap-2 Maneuver	624	623	-	642	623	-	-	-	-	-	-	-
Stage 1	862	781	-	867	782	-	-	-	-	-	-	-
Stage 2	795	772	-	817	771	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1455	-	-	716	685	1470	-	-
HCM Lane V/C Ratio	0.008	-	-	0.067	0.117	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.4	11	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	5	2	198	137	20
Future Vol, veh/h	12	5	2	198	137	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	5	2	215	149	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	379	160	171	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	623	885	1406	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	622	885	1406	-	-	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1406	-	682	-	-
HCM Lane V/C Ratio	0.002	-	0.027	-	-
HCM Control Delay (s)	7.6	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	20	7	25	32	6	7	171	39	6	109	16
Future Vol, veh/h	20	20	7	25	32	6	7	171	39	6	109	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	22	8	27	35	7	8	186	42	7	118	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	385	385	127	379	372	207	135	0	0	228	0	0
Stage 1	141	141	-	223	223	-	-	-	-	-	-	-
Stage 2	244	244	-	156	149	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	573	549	923	579	558	833	1449	-	-	1340	-	-
Stage 1	862	780	-	780	719	-	-	-	-	-	-	-
Stage 2	760	704	-	846	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	536	542	923	552	551	833	1449	-	-	1340	-	-
Mov Cap-2 Maneuver	536	542	-	552	551	-	-	-	-	-	-	-
Stage 1	857	775	-	775	715	-	-	-	-	-	-	-
Stage 2	713	700	-	811	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	12.2	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	575	570	1340	-	-
HCM Lane V/C Ratio	0.005	-	-	0.089	0.12	0.005	-	-
HCM Control Delay (s)	7.5	0	-	11.9	12.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	8	5	0	20	8	111	1	6	152	14
Future Vol, veh/h	7	0	8	5	0	20	8	111	1	6	152	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	9	5	0	22	9	121	1	7	165	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	338	327	173	331	334	122	180	0	0	122	0	0
Stage 1	187	187	-	140	140	-	-	-	-	-	-	-
Stage 2	151	140	-	191	194	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	616	591	871	622	586	929	1396	-	-	1465	-	-
Stage 1	815	745	-	863	781	-	-	-	-	-	-	-
Stage 2	851	781	-	811	740	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	596	584	871	610	579	929	1396	-	-	1465	-	-
Mov Cap-2 Maneuver	596	584	-	610	579	-	-	-	-	-	-	-
Stage 1	809	741	-	857	776	-	-	-	-	-	-	-
Stage 2	825	776	-	799	736	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.4	0.5	0.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1396	-	-	717	841	1465	-	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.032	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.1	9.4	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	13	17	30	27	17	11	88	25	7	110	25
Future Vol, veh/h	15	13	17	30	27	17	11	88	25	7	110	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	14	18	33	29	18	12	96	27	8	120	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	307	297	134	300	297	110	147	0	0	123	0	0
Stage 1	150	150	-	134	134	-	-	-	-	-	-	-
Stage 2	157	147	-	166	163	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	645	615	915	652	615	943	1435	-	-	1464	-	-
Stage 1	853	773	-	869	785	-	-	-	-	-	-	-
Stage 2	845	775	-	836	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	602	606	915	620	606	943	1435	-	-	1464	-	-
Mov Cap-2 Maneuver	602	606	-	620	606	-	-	-	-	-	-	-
Stage 1	845	768	-	861	778	-	-	-	-	-	-	-
Stage 2	790	768	-	799	758	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.1	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1435	-	-	693	667	1464	-	-
HCM Lane V/C Ratio	0.008	-	-	0.071	0.121	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.6	11.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	116	4	2	163
Future Vol, veh/h	10	8	116	4	2	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	126	4	2	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	309	128	0	0	130	0
Stage 1	128	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	683	922	-	-	1455	-
Stage 1	898	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	682	922	-	-	1455	-
Mov Cap-2 Maneuver	682	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	682	922	1455	-
HCM Lane V/C Ratio	-	-	0.016	0.009	0.001	-
HCM Control Delay (s)	-	-	10.4	8.9	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	0	5	3	0	10	2	198	2	18	146	20
Future Vol, veh/h	12	0	5	3	0	10	2	198	2	18	146	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	5	3	0	11	2	215	2	20	159	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	436	431	170	433	441	216	181	0	0	217	0	0
Stage 1	210	210	-	220	220	-	-	-	-	-	-	-
Stage 2	226	221	-	213	221	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	531	517	874	533	510	824	1394	-	-	1353	-	-
Stage 1	792	728	-	782	721	-	-	-	-	-	-	-
Stage 2	777	720	-	789	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	508	874	522	501	824	1394	-	-	1353	-	-
Mov Cap-2 Maneuver	517	508	-	522	501	-	-	-	-	-	-	-
Stage 1	790	716	-	780	720	-	-	-	-	-	-	-
Stage 2	765	719	-	772	708	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	10.1	0.1	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1394	-	-	588	727	1353	-	-
HCM Lane V/C Ratio	0.002	-	-	0.031	0.019	0.014	-	-
HCM Control Delay (s)	7.6	0	-	11.3	10.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	20	7	25	32	6	7	184	39	6	116	18
Future Vol, veh/h	22	20	7	25	32	6	7	184	39	6	116	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	22	8	27	35	7	8	200	42	7	126	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	408	408	136	402	397	221	146	0	0	242	0	0
Stage 1	150	150	-	237	237	-	-	-	-	-	-	-
Stage 2	258	258	-	165	160	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	554	533	913	559	540	819	1436	-	-	1324	-	-
Stage 1	853	773	-	766	709	-	-	-	-	-	-	-
Stage 2	747	694	-	837	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	527	913	532	534	819	1436	-	-	1324	-	-
Mov Cap-2 Maneuver	517	527	-	532	534	-	-	-	-	-	-	-
Stage 1	848	768	-	761	705	-	-	-	-	-	-	-
Stage 2	700	690	-	802	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	12.5	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	556	551	1324	-	-
HCM Lane V/C Ratio	0.005	-	-	0.096	0.124	0.005	-	-
HCM Control Delay (s)	7.5	0	-	12.2	12.5	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	6	199	13	9	145
Future Vol, veh/h	6	6	199	13	9	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	216	14	10	158

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	401	223	0	0	230	0
Stage 1	223	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	605	817	-	-	1338	-
Stage 1	814	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	600	817	-	-	1338	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	600	817	1338	-
HCM Lane V/C Ratio	-	-	0.011	0.008	0.007	-
HCM Control Delay (s)	-	-	11.1	9.4	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	11	11	150	201	19
Future Vol, veh/h	10	11	11	150	201	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	12	12	163	218	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	416	229	239	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	187	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	593	810	1328	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	810	1328	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1328	-	686	-	-
HCM Lane V/C Ratio	0.009	-	0.033	-	-
HCM Control Delay (s)	7.7	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	19	17	23	40	36	23	14	113	34	10	129	33
Future Vol, veh/h	19	17	23	40	36	23	14	113	34	10	129	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	18	25	43	39	25	15	123	37	11	140	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	384	370	158	374	370	142	176	0	0	160	0	0
Stage 1	180	180	-	172	172	-	-	-	-	-	-	-
Stage 2	204	190	-	202	198	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	574	560	887	583	560	906	1400	-	-	1419	-	-
Stage 1	822	750	-	830	756	-	-	-	-	-	-	-
Stage 2	798	743	-	800	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	519	548	887	543	548	906	1400	-	-	1419	-	-
Mov Cap-2 Maneuver	519	548	-	543	548	-	-	-	-	-	-	-
Stage 1	812	743	-	820	747	-	-	-	-	-	-	-
Stage 2	727	734	-	751	730	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	12.3	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1400	-	-	631	601	1419	-	-
HCM Lane V/C Ratio	0.011	-	-	0.102	0.179	0.008	-	-
HCM Control Delay (s)	7.6	0	-	11.4	12.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	7	3	267	184	27
Future Vol, veh/h	16	7	3	267	184	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	8	3	290	200	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	511	215	229	0	-	0
Stage 1	215	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	523	825	1339	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	521	825	1339	-	-	-
Mov Cap-2 Maneuver	521	-	-	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	755	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1339	-	587	-	-
HCM Lane V/C Ratio	0.002	-	0.043	-	-
HCM Control Delay (s)	7.7	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	27	10	34	43	9	10	30	53	9	147	21
Future Vol, veh/h	27	27	10	34	43	9	10	30	53	9	147	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	29	11	37	47	10	11	33	58	10	160	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	305	305	172	296	287	62	183	0	0	91	0	0
Stage 1	192	192	-	84	84	-	-	-	-	-	-	-
Stage 2	113	113	-	212	203	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	647	608	872	656	623	1003	1392	-	-	1504	-	-
Stage 1	810	742	-	924	825	-	-	-	-	-	-	-
Stage 2	892	802	-	790	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	597	599	872	617	614	1003	1392	-	-	1504	-	-
Mov Cap-2 Maneuver	597	599	-	617	614	-	-	-	-	-	-	-
Stage 1	804	737	-	917	818	-	-	-	-	-	-	-
Stage 2	826	796	-	744	728	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	11.6	0.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1392	-	-	629	641	1504	-	-
HCM Lane V/C Ratio	0.008	-	-	0.111	0.146	0.007	-	-
HCM Control Delay (s)	7.6	0	-	11.4	11.6	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	11	5	0	20	11	150	1	6	203	19
Future Vol, veh/h	10	0	11	5	0	20	11	150	1	6	203	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	12	5	0	22	12	163	1	7	221	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	445	434	232	440	444	164	242	0	0	164	0	0
Stage 1	246	246	-	188	188	-	-	-	-	-	-	-
Stage 2	199	188	-	252	256	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	523	515	807	527	508	881	1324	-	-	1414	-	-
Stage 1	758	703	-	814	745	-	-	-	-	-	-	-
Stage 2	803	745	-	752	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	507	807	513	500	881	1324	-	-	1414	-	-
Mov Cap-2 Maneuver	504	507	-	513	500	-	-	-	-	-	-	-
Stage 1	750	699	-	806	738	-	-	-	-	-	-	-
Stage 2	775	738	-	736	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.8	0.5	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	627	770	1414	-	-
HCM Lane V/C Ratio	0.009	-	-	0.036	0.035	0.005	-	-
HCM Control Delay (s)	7.7	0	-	11	9.8	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	21	17	23	40	36	23	14	117	34	10	143	34
Future Vol, veh/h	21	17	23	40	36	23	14	117	34	10	143	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	18	25	43	39	25	15	127	37	11	155	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	404	390	174	393	390	146	192	0	0	164	0	0
Stage 1	196	196	-	176	176	-	-	-	-	-	-	-
Stage 2	208	194	-	217	214	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	557	545	869	566	545	901	1381	-	-	1414	-	-
Stage 1	806	739	-	826	753	-	-	-	-	-	-	-
Stage 2	794	740	-	785	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	503	534	869	527	534	901	1381	-	-	1414	-	-
Mov Cap-2 Maneuver	503	534	-	527	534	-	-	-	-	-	-	-
Stage 1	796	732	-	816	744	-	-	-	-	-	-	-
Stage 2	723	731	-	736	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	12.5	0.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	610	586	1414	-	-
HCM Lane V/C Ratio	0.011	-	-	0.109	0.184	0.008	-	-
HCM Control Delay (s)	7.6	0	-	11.6	12.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.7	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	157	4	2	217
Future Vol, veh/h	10	8	157	4	2	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	171	4	2	236

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	413	173	0	0	175	0
Stage 1	173	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	595	871	-	-	1401	-
Stage 1	857	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	594	871	-	-	1401	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	594	871	1401	-
HCM Lane V/C Ratio	-	-	0.018	0.01	0.002	-
HCM Control Delay (s)	-	-	11.2	9.2	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	0	7	3	0	10	3	267	2	18	202	27
Future Vol, veh/h	16	0	7	3	0	10	3	267	2	18	202	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	0	8	3	0	11	3	290	2	20	220	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	578	573	235	576	586	291	249	0	0	292	0	0
Stage 1	275	275	-	297	297	-	-	-	-	-	-	-
Stage 2	303	298	-	279	289	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	427	430	804	428	422	748	1317	-	-	1270	-	-
Stage 1	731	683	-	712	668	-	-	-	-	-	-	-
Stage 2	706	667	-	728	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	414	421	804	417	413	748	1317	-	-	1270	-	-
Mov Cap-2 Maneuver	414	421	-	417	413	-	-	-	-	-	-	-
Stage 1	729	671	-	710	666	-	-	-	-	-	-	-
Stage 2	694	665	-	708	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	10.8	0.1	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1317	-	-	486	632	1270	-	-
HCM Lane V/C Ratio	0.002	-	-	0.051	0.022	0.015	-	-
HCM Control Delay (s)	7.7	0	-	12.8	10.8	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	27	10	34	43	9	10	43	53	9	157	23
Future Vol, veh/h	29	27	10	34	43	9	10	43	53	9	157	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	29	11	37	47	10	11	47	58	10	171	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	331	331	184	322	314	76	196	0	0	105	0	0
Stage 1	204	204	-	98	98	-	-	-	-	-	-	-
Stage 2	127	127	-	224	216	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	622	588	858	631	601	985	1377	-	-	1486	-	-
Stage 1	798	733	-	908	814	-	-	-	-	-	-	-
Stage 2	877	791	-	779	724	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	571	578	858	591	591	985	1377	-	-	1486	-	-
Mov Cap-2 Maneuver	571	578	-	591	591	-	-	-	-	-	-	-
Stage 1	791	727	-	900	807	-	-	-	-	-	-	-
Stage 2	811	784	-	732	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.9	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1377	-	-	605	617	1486	-	-
HCM Lane V/C Ratio	0.008	-	-	0.119	0.152	0.007	-	-
HCM Control Delay (s)	7.6	0	-	11.7	11.9	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	6	268	13	9	203
Future Vol, veh/h	6	6	268	13	9	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	291	14	10	221

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	539	298	0	0	305	0
Stage 1	298	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	503	741	-	-	1256	-
Stage 1	753	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	498	741	-	-	1256	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	498	741	1256	-
HCM Lane V/C Ratio	-	-	0.013	0.009	0.008	-
HCM Control Delay (s)	-	-	12.3	9.9	7.9	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

KELLAR ENGINEERING



Sean Kellar, PE, PTOE

Principal Engineer

Education
B.S., Civil Engineering, Arizona State University – Tempe, AZ

Registration
Colorado, Professional Engineer (PE)
Wyoming, Professional Engineer (PE)
Idaho, Professional Engineer (PE)
Arizona, Professional Engineer (PE)
Kansas, Professional Engineer (PE)
Missouri, Professional Engineer (PE)
Professional Traffic Operations Engineer (PTOE)

Professional Memberships
Institute of Transportation Engineers (ITE)

Industry Tenure
22 Years

Sean's wide range of expertise includes: transportation planning, traffic modeling roadway design, bike and pedestrian facilities, traffic impact studies, traffic signal warrant analysis, parking studies, corridor planning and access management. Sean's experience in both the private and public sectors; passion for safety and excellence; and strong communication and collaboration skills can bring great value to any project. Prior to starting Kellar Engineering, Sean was employed at the Missouri Department of Transportation (MoDOT) as the District Traffic Engineer for the Kansas City District. Sean also worked for the City of Loveland, CO for over 10 years as a Senior Civil Engineer supervising a division of transportation/traffic engineers. While at the City of Loveland, Sean managed several capital improvement projects, presented several projects to the City Council and Planning Commission in public hearings, and managed the revisions to the City's Street Standards. Sean is also proficient in Highway Capacity Software, Synchro, PT Vissim, Rodel, GIS, and AutoCAD.

WORK EXPERIENCE:

Kellar Engineering, Principal Engineer/President – January 2016 – Present

Missouri Department of Transportation, District Traffic Engineer, Kansas City District – June 2015 – January 2016

City of Loveland, Colorado, Senior Civil Engineer, Public Works Department – February 2005 – June 2015

Kirkham Michael Consulting Engineers, Project Manager - February 2004 – February 2005

Dibble and Associates Consulting Engineers, Project Engineer – August 1999 – February 2004

THE FLATS AT LUPTON VILLAGE

FINAL HYDRAULIC REPORT

April 2022

Project 21-031

PREPARED FOR

Lupton Village Land Developers, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

PREPARED BY

LandOne Engineering, LLC
361 71st Avenue #100
Greeley, Colorado 80634

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I. GENERAL LOCATION AND DESCRIPTION

A. Location

The proposed project is located in Fort Lupton, Colorado on the north side of County Road 12, east of Denver Avenue, and more particularly described as The Flats at Lupton Village PUD.

The site is bordered by Weld County Road (CR) 12 (Kahil Street) to the south, to the east by a railroad, to the north by vacant land and to the west by Denver Avenue. Reference Exhibit A – Vicinity Map.

B. Description of Property

The property is approximately 10.34 acres vacant land. The property is being developed as single-family townhomes. The townhomes will be 5-Plex's. There will be 24 buildings with a total of 120 units. See Exhibit B – Utility Plan.

II. POTABLE WATER SYSTEM

A. Existing Potable Water System

There are two proposed connections to the existing 12" watermain for this project. The connections are at the following locations:

- In Denver Ave approximately 200 feet north of County Road 12 (Kahil Street).
- In Denver Ave approximately 1,200 feet north of County Road 12.

Reference Exhibit B – Utility Plan.

Fire flow tests on the existing system were completed on August 23rd, 2021 and September 8th, 2021. See Exhibit C – Fire Flow Test Locations. The results of the flow test are shown in Table 1 below.

Table 1: Hydrant Flow Test Results

Hydrant ID	Hydrant Number	Location	Static Pressure (psi)	Residual Pressure (psi)	Flow Rate (gpm)
FTL-FH-0081	81	Denver Ave.	54	50	1000
FTL-FH-0074	74	Denver Ave.	62	56	1130

B. Potable Water Hydraulic Performance Criteria

For the design of the potable water main, Fort Lupton Standards and specifications of design and flow tests conducted by the city were referenced. The following assumptions have been made:

- The existing watermain supply is assumed to be endless.
- The existing watermain's static pressure at the connection points are 54 psi and 62 psi.
- The Hazen-Williams coefficient for PVC pipe was assumed to be 130.

The design of the potable water system will meet the minimum performance criteria in Table 2 below as defined in the City Development Standards.

Table 2: Potable Water Hydraulic Performance Criteria

Criteria Description	Pressure (PSI)
Maximum Static Pressure	100
Minimum Fire Flow Pressure (Max Day Demand + Fire Flow)	20
Minimum Pressure at Peak Hour Demand	50
The maximum pressure fluctuation between Peak Hour Demand and Average Day Demand	30

The minimum demand performance criteria is outlined in Table 3 below.

Table 3: Potable Water Demand Performance Criteria

Type of Development	Units per Acre	People per Unit	Per Capita Day Demand gpd
Single Family Attached	Up to 18	2.62	200

C. Potable Water Demands and Model

Demands were calculated for the Average Day Demand (ADD), Max Day demand (MDD), and Peak Hour Demand (PHD). The system was analyzed in two different design cases.

- Design Case 1: Maximum Day Demand + Project Fire Flow.
- Design case 2: Peak Hour Demand.

Irrigation has not been factored into these demand calculations. Irrigation demand will be met by a separate non-potable source.

A peaking factor of 2.5 and 4.0, was assumed for max day demand and peak hour demand respectively per Ch.3 Section 13 of Fort Lupton Standards and Specifications Manual.

Fire flow demands were calculated assuming the requirements in the 2018 International Fire Code. Assuming a 4,400 gross square foot building based on the 5-plex and Type V-B building construction, the minimum required fire flow, based on Table B105.1 is assumed to be 1,750 gallons per minute. The buildings will not have automatic sprinkler systems, so a reduction in the minimum required fire flow will not be allowed.

Table 4: Potable Water Demands

Design Scenario	Flow (gpd)	Flow (gpm)
Average Day Demand	62,880	23
Max Day Demand	157,200	110
Peak Hour Demand	251,520	175
Project Fire Flow	N/A	1,750

The Maximum Day Demand + Project Fire Flow was calculated to be 1,860 gpm. The Peak Hour Demand was calculated to be 175 gpm. Once the demands were determined, calculations were completed to determine if the minimum criteria were met. See Exhibit C – Water Model Layout and Analysis.

D. Results and Conclusion

For Design Case 1, the minimum residual pressure in the system was calculated to be 55 psi. This result exceeds the minimum pressure of 20 psi, as stated in Section 3.15 of the Standards and Specifications. Based on the modeling, the site will be served by an 8-inch potable water main. Design Case 2 was not evaluated since Design Case 1 exceeded the minimum criteria for Design Case 2. Overall, the proposed water system meets or exceeds the criteria set forth by the Standards and Specifications.

III. SANITARY SEWER

A. Existing Sanitary Sewer System

There are two proposed connections to the existing sanitary sewer system. The connections are at the following locations:

- To an existing manhole located in County Road 12 (Kahil Street).
- To an existing manhole located 140' +/- west of the back of walk that runs parallel with Denver Avenue, and 20' +/- north of the back of walk that runs parallel with Reynolds Street.

Reference Exhibit B – Utility Plan

B. Wastewater Hydraulic Performance Criteria

For the design of the sanitary sewer main, the Standards and Specifications were referenced. The following assumptions have been made:

- A peaking factor of 3.0 for Peak Daily Flow
- Infiltration and Inflow Rate of 1000 gallon per acre per day
- Manning n equal to 0.015
- Minimum slope 0.5%
- Design capacity of the pipe assuming a maximum depth of 2/3 the diameter of the pipe

The minimum demand performance criteria is outlined in Table 5 below.

Table 5: Wastewater Hydraulic Performance Criteria

Property Type	People per Unit	Average Use (gpcd)
Single Family Residential	2.90	70

C. Wastewater Demands and Model

The average daily flow, peak daily flow and infiltration/inflow for the single-family residential development was calculated. For the 120 proposed units the total wastewater demands are shown in Table 6 below.

Table 6: Townhome Wastewater Demands

Design Scenario	Acres	# Of Units	Flow (gpd)	Flow (gpm)
Average Daily Flow	N/A	120	24,360	16.9
Peak Daily Flow	N/A	120	73,080	50.7
Infiltration and Inflow	10.34	N/A	10,340	7.2

The Peak Daily Flow plus Infiltration/Inflow was calculated to be 57.9 gpm. Once the demands were

determined, calculations were completed to determine if the minimum criteria were met. The demands were divided between the sewer connections by the number of units served by each connection. The Infiltration/Inflow was determined by applying the percentage of units served by the line to the total Infiltration/Inflow demand assumed for the site. See Exhibit E – Sanitary Sewer Analysis and Exhibit B – Utility Plan.

D. Results and Conclusion

The analysis of the 8" sanitary sewer main showed a maximum depth of 1.7 inches for the Peak Daily Flow with Infiltration/Inflow. Overall, the proposed sanitary sewer system meets or exceeds the criteria set forth by the Standards and Specifications.

IV. REFERENCES

- City of Fort Lupton Standards and Specifications for The Design and Construction of Public Improvements, 2014 Edition, referred to herein as the Standards and Specifications.
- 2018 International Fire Code

V. EXHIBITS

Exhibit A. Vicinity Map

Exhibit B. Utility Plan

Exhibit C. Fire Flow Test Results

Exhibit D. Water Model and Analysis

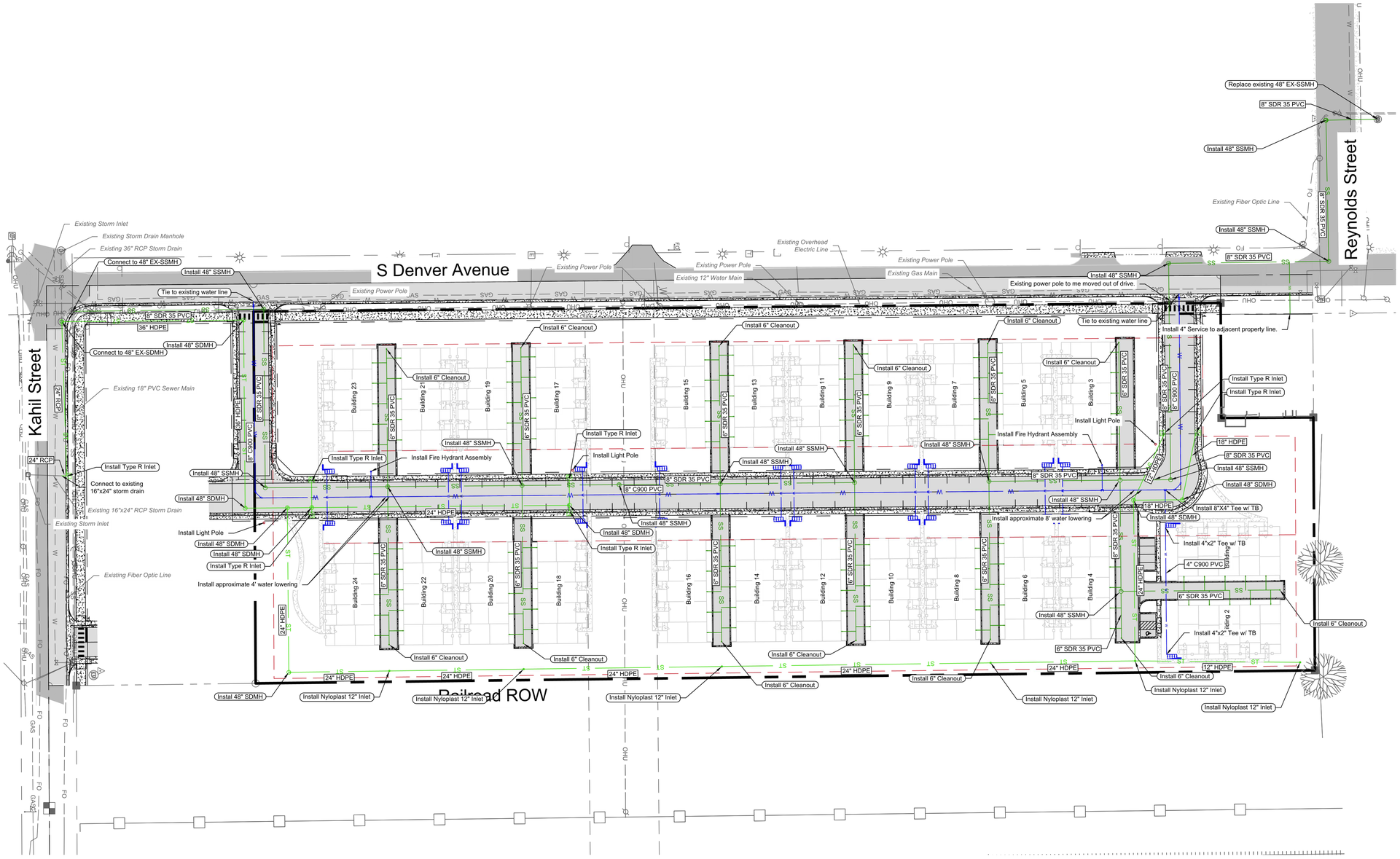
Exhibit E. Sanitary Sewer Analysis



The Flats at Lupton Village

Exhibit A - Vicinity Map

LAND ONE engineering
970-632-2311



N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

Job Number: 21-031
Checked By: JG
Date: 04/20/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical), The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

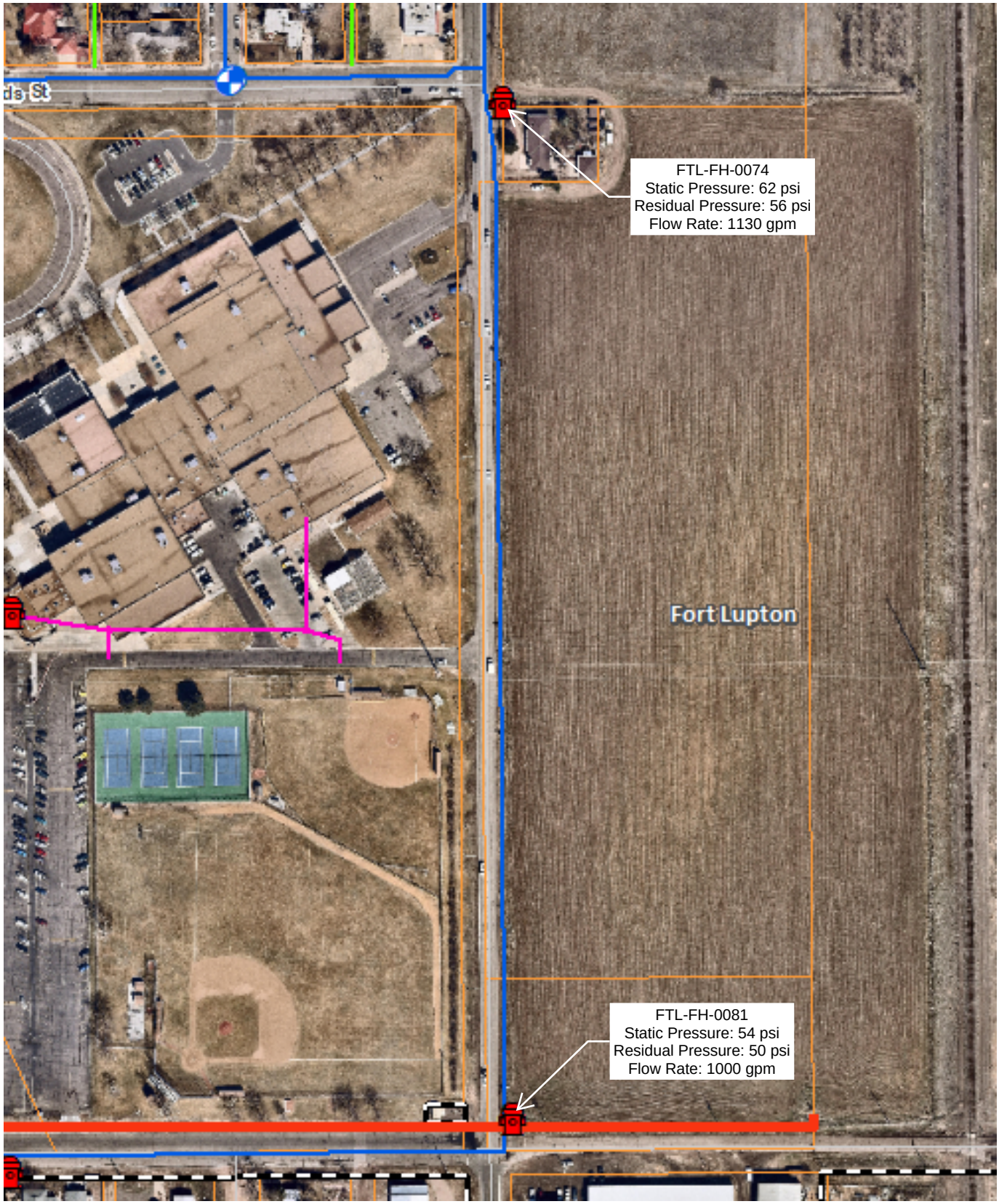
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

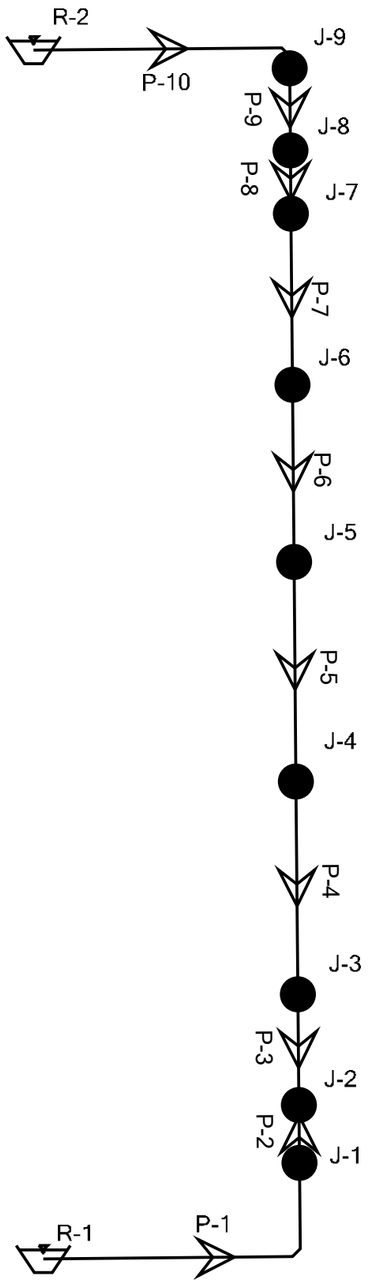
The Flats at Lupton Village
Construction Documents
Overall Utility Plan
Fort Lupton, CO

Sheet C8.0

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Overall Utility Plan 21-031.dwg, 4/14/2022 4:34:10 PM, Sam Boyd, LandOne Engineering



The Flats at Lupton Village	Exhibit C - Fire Flow Test Locations	LAND ONE engineering 970-632-2311



Water Model Schematic

Building Demands have been distributed amongst junctions to more accurately represent the system.

Reservoir Table

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	5,043.74	305	5,043.74
R-2	5,061.22	1,555	5,061.22

Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	4,915.00	9	5,043.16	55
J-2	4,915.50	875	5,043.06	55
J-3	4,916.00	18	5,043.67	55
J-4	4,917.00	18	5,044.92	55
J-5	4,916.00	18	5,046.28	56
J-6	4,917.00	18	5,047.43	56
J-7	4,917.00	18	5,048.61	57
J-8	4,917.00	875	5,049.07	57
J-9	4,917.50	9	5,051.86	58

Pipe Table

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Material
P-1	R-1	J-1	288	8.0	130.0	305	1.95	0.002	PVC
P-2	J-1	J-2	48	8.0	130.0	296	1.89	0.002	PVC
P-3	J-2	J-3	92	8.0	130.0	-579	3.69	0.007	PVC
P-4	J-3	J-4	177	8.0	130.0	-597	3.81	0.007	PVC
P-5	J-4	J-5	183	8.0	130.0	-615	3.93	0.007	PVC
P-6	J-5	J-6	147	8.0	130.0	-634	4.05	0.008	PVC
P-7	J-6	J-7	142	8.0	130.0	-652	4.16	0.008	PVC
P-8	J-7	J-8	53	8.0	130.0	-670	4.28	0.009	PVC
P-9	J-8	J-9	68	8.0	130.0	-1,545	9.86	0.041	PVC
P-10	J-9	R-2	226	8.0	130.0	-1,555	9.92	0.041	PVC

County Road 12 (Kahil Street) Connection

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.010	
Channel Slope	0.005	ft/ft
Diameter	8.0	in
Discharge	48.30	gpm

Results		
Normal Depth	1.7	in
Flow Area	0.1	ft^2
Wetted Perimeter	0.6	ft
Hydraulic Radius	1.0	in
Top Width	0.54	ft
Critical Depth	1.8	in
Percent Full	21.0	%
Critical Slope	0.004	ft/ft
Velocity	2.02	ft/s
Velocity Head	0.06	ft
Specific Energy	0.20	ft
Froude Number	1.134	
Maximum Discharge	536.29	gpm
Discharge Full	498.54	gpm
Slope Full	0.000	ft/ft
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	21.0	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.7	in
Critical Depth	1.8	in
Channel Slope	0.005	ft/ft
Critical Slope	0.004	ft/ft

Reynolds Street Connection

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.010
Channel Slope	0.005 ft/ft
Diameter	8.0 in
Discharge	9.60 gpm

Results	
Normal Depth	0.8 in
Flow Area	0.0 ft²
Wetted Perimeter	0.4 ft
Hydraulic Radius	0.5 in
Top Width	0.39 ft
Critical Depth	0.8 in
Percent Full	9.6 %
Critical Slope	0.004 ft/ft
Velocity	1.24 ft/s
Velocity Head	0.02 ft
Specific Energy	0.09 ft
Froude Number	1.045
Maximum Discharge	536.29 gpm
Discharge Full	498.54 gpm
Slope Full	0.000 ft/ft
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	9.6 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.8 in
Critical Depth	0.8 in
Channel Slope	0.005 ft/ft
Critical Slope	0.004 ft/ft

City of Fort Lupton

Via Email

Attn: Chris Cross ccross@fortluptonco.gov

Todd Hodges thodges@fortluptonco.gov

Roy Vestal rvestal@fortluptonco.gov

February 4, 2022

RE: RAW Water Dedication

Dear Town Staff,

Background:

The purpose of this letter, and accompanying report is to request a reduction in water dedication for the single family and townhome products that Baessler Homes intends to construct in Fort Lupton. We feel that our product types encourage water conservation, and we look forward to working with the city. The following documents are included with this letter:

- Appendix A:
  - Actual Water Demand History of Single Family Homes in the North Point Subdivision Sixth Filing in Evans, Colorado
- Appendix B:
  - Actual Water Demand History of our Town Homes at the Orchard Park Subdivision in Evans, Colorado
- Appendix C:
  - Hines Inc Water Analysis letter (Includes Townhomes and Single Family)

Additional actuals and expert opinions are available upon further request.

BACKGROUND

Water conservation is a growingly important issue in Northern Colorado. Based on the real and actual data Baessler Home's products are consistently using a fraction of historically based raw water dedication amounts. Water dedication has a considerable impact on the attainability of a home in Northern Colorado. Ultimately, that impact is passed onto the consumers if the market allows. Water dedication should be data driven and encourage reduced usage. Units which are proven to use less water should be encouraged, and the dedication requirement should facilitate this. If the raw water dedication requirements are disproportionate to the actual usage of residents the result is a higher home price for consumers. This ultimately does little to encourage conservation as the allotments mimic that of larger and more intense users such as larger single family lots with basements. Baessler Homes understands that there is a budgetary and system need for municipalities, but in order to provide attainable housing there is also a need for fair application of costs based on ultimate usage and impact to the system.

SINGLE FAMILY

Appendix A includes 23 months of user data for a number of single family slab on grade home types in the North Point Subdivision in Evans Colorado. The data runs from December of 2019 to October of 2021 This data includes both internal and external (non-potable) usage and highlights the reduced demand these homes create.

The average annual usage in relation to an acre foot is below. This number includes the actual usage as well as an additional 18% to account for system loss. The 18% system loss is pulled directly from the Fort Lupton Water Efficiency Plan.

SINGLE FAMILY - Average Annual Potable Usage (with 18% loss) = 37,839 Gallons

With Non-Potable System

37,839 Gallons / 325,851 Gallons = **.1161 or 11.61% of Acre-Ft**

Without Non-Potable System

83,729 Gallons / 325,851 Gallons = **.2570 or 25.70% of Acre-Ft**

TOWNHOMES

Appendix B includes 18 months of user data for a variety of townhome types in the Orchard Park Subdivision in Evans Colorado. The data runs from January of 2019 to June of 2020 This data includes only internal usage and highlights the reduced demand these homes create.

The average annual usage in relation to an acre foot is below. This number includes the actual usage as well as an additional 18% to account for system loss. The 18% system loss is pulled directly from the Fort Lupton Water Efficiency Plan.

TOWNHOME – Average Annual Potable Usage (with 18% loss) = 38,932 Gallons

With Non-Potable System

38,932 Gallons / 325,851 Gallons = **.1195 or 11.95% of an Acre-Ft**

Please note that all homes are slab on grade and do not include basements, thus will not allow for additional growth or expansion of water fixtures within the units. All construction of both townhome and single-family units will include WaterSense fixtures, thus the water demand for the life of the home will remain very stable. Model number, bedrooms and bathrooms are included in the data.

The request below includes the acre-feet dedication amounts. In the interest of simplicity, we used acre-feet as our primary metric. Ultimately, we feel that using this metric allows for more straightforward conversion as other water sources may be used in the future.

REQUEST

Taking into consideration the accompanying documentation Baessler Homes requests the City of Fort Lupton accept the following RAW water dedication per unit type.

Townhome Units with Non-Potable: .11 Acre-Ft. Per Unit

Note: Townhome irrigated areas are typically handled through a separate irrigation study. May be potable or non-potable, but not included in request.

Slab on Grade Single Family Units with Non-Potable: .11 Acre-Ft. Per Unit

Slab on Grade Single Family Units without Non-Potable: .25 Acre Ft. Per Unit

Thank you for your consideration. We look forward to working with you all on this project.

Respectfully,

Andrew J Gerk
Representative
(970)702-6062
agerk@baesslerhomes.com

Appendix A

Average Single Family Usage (North Pointe Subdivision)

Lot	Block	Address/Model/Bedrooms	Type	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	1-Oct	Average Per Month
3	1	3108 Shelter Cove Dr																									
		505B	Potable Usage (gallons)												2,300.00	2,200.00	2,400.00	2,300.00	1,700.00	2,000.00	3,300.00	3,000.00	2,300.00	2,500.00	2,900.00		2,445.00
		4 BD/3 BA	Non-Potable Usage (gallons)												–	–	–	–	–	–	–	15,000.00	31,000.00	23,000.00	34,000.00		9,363.00
6	1	3317 Sandy Harbor Dr																									
		504C	Potable Usage (gallons)											700.00	400.00	4,400.00	2,400.00	2,100.00	1,800.00	2,200.00	4,800.00	3,200.00	2,700.00	4,700.00	2,200.00		2,633.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)											9,000.00	–	–	–	–	–	–	4,000.00	36,000.00	28,000.00	–	–		6,416.00
8	1	3309 Sandy Harbor Dr																									
		503A	Potable Usage (gallons)											1,600.00	700.00	4,100.00	2,200.00	2,300.00	2,200.00	2,500.00	2,500.00	2,800.00	3,000.00	2,500.00	2,400.00	2,500.00		2,407.00
		4 BD/3 BA	Non-Potable Usage (gallons)											29,000.00	–	–	–	–	–	–	–	–	15,000.00	5,000.00	10,000.00	12,000.00	5,461.00
10	1	3301 Sandy Harbor Dr																									
		504A	Potable Usage (gallons)										1,800.00	700.00	700.00	8,700.00	2,500.00	5,000.00	4,400.00	5,100.00	8,600.00	11,400.00	15,900.00	5,700.00	4,500.00	2,900.00	5,564.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)										5,000.00	–	–	–	–	–	–	–	–	6,000.00	7,000.00	6,000.00	7,000.00	2,000.00	2,357.00
25	1	2929 Shady Oaks Dr																									
		502B	Potable Usage (gallons)								1,700.00	1,900.00	1,700.00	1,700.00	1,800.00	1,900.00	2,100.00	2,200.00	2,100.00	2,700.00	2,100.00	2,200.00	2,300.00	2,500.00	1,800.00	1,700.00	2,025.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)								10,000.00	15,000.00	12,000.00	25,000.00	–	–	–	–	–	–	4,000.00	12,000.00	17,000.00	13,000.00	16,000.00	13,000.00	8,562.00
37	1	3300 Sheltered Harbor Dr																									
		502C	Potable Usage (gallons)	100.00	2,900.00	2,700.00	2,800.00	3,100.00	2,700.00	2,900.00	2,600.00	2,800.00	3,700.00	3,500.00	3,700.00	3,400.00	3,500.00	2,400.00	2,300.00	2,800.00	2,500.00	2,900.00	3,000.00	3,100.00	4,100.00	3,100.00	2,895.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	14,000.00	16,000.00	17,000.00	16,000.00	10,000.00	–	–	–	–	–	–	3,000.00	7,000.00	9,000.00	8,000.00	8,000.00	9,000.00	5,130.00
38	1	3304 Sheltered Harbor Dr																									
		500B	Potable Usage (gallons)																2,000.00	4,100.00	5,400.00	9,000.00	8,500.00	1,300.00	1,000.00	900.00	4,025.00
		2 BD/2 BA	Non-Potable Usage (gallons)																–	–	–	4,000.00	7,000.00	7,000.00	7,000.00	4,000.00	3,625.00
40	1	3312 Sheltered Harbor Dr																									
		500A	Potable Usage (gallons)					2,800.00	2,500.00	2,800.00	2,800.00	2,700.00	2,500.00	2,600.00	2,400.00	2,500.00	2,200.00	2,700.00	2,500.00	2,400.00	2,200.00	2,800.00	2,000.00	2,100.00	2,100.00		2,477.00
		2 BD/2 BA	Non-Potable Usage (gallons)					–	1,000.00	17,000.00	24,000.00	12,000.00	9,000.00	8,000.00	–	–	–	–	–	–	4,000.00	10,000.00	11,000.00	16,000.00	20,000.00		7,333.00
4	2	3216 Sandy Harbor Dr																									
		504B	Potable Usage (gallons)									–	5,900.00	18,900.00	2,000.00	2,400.00	3,300.00	1,900.00	1,600.00	2,000.00	1,600.00	6,400.00	13,200.00	4,300.00	1,400.00	1,100.00	4,400.00
		4 BD/3 BA	Non-Potable Usage (gallons)									1,000.00	14,000.00	13,000.00	–	–	–	–	–	–	1,000.00	12,000.00	11,000.00	13,000.00	13,000.00	13,000.00	6,066.00
6	2	3208 Sandy Harbor Dr																									
		500C	Potable Usage (gallons)							200.00	3,100.00	3,100.00	1,100.00	1,100.00	1,400.00	1,400.00	1,800.00	1,600.00	1,300.00	1,800.00	1,200.00	1,700.00	2,300.00	2,900.00	1,800.00	1,800.00	1,741.00
		2 BD/2 BA	Non-Potable Usage (gallons)							–	1,000.00	45,000.00	16,000.00	16,000.00	–	–	–	–	–	–	–	7,000.00	30,000.00	20,000.00	19,000.00	9,000.00	9,588.00
5	3	3300 North Point Dr																									
		503C	Potable Usage (gallons)								1,400.00	2,600.00	2,400.00	4,200.00	2,800.00	2,500.00	3,000.00	2,800.00	2,400.00	2,700.00	3,900.00	7,700.00	4,700.00	6,800.00	7,700.00		3,840.00
		3 BD/2 BA	Non-Potable Usage (gallons)								–	8,000.00	7,000.00	5,000.00	–	–	–	–	–	–	–	4,000.00	6,000.00	6,000.00	9,000.00		3,000.00
8	3	3208 North Point Dr																									
		503B	Potable Usage (gallons)									1,200.00	1,200.00	1,400.00	1,700.00	1,600.00	2,200.00	2,000.00	1,700.00	1,700.00	2,700.00	2,200.00	2,500.00	2,200.00	2,300.00	2,400.00	1,933.00
		3 BD/2 BA	Non-Potable Usage (gallons)									15,000.00	15,000.00	8,000.00	–	–	–	–	–	–	3,000.00	6,000.00	30,000.00	29,000.00	11,000.00	6,000.00	8,200.00
11	3	3215 Kingfisher Cove Dr																									
		501C	Potable Usage (gallons)																				1,100.00	1,600.00	1,500.00	1,200.00	1,350.00
		3 BD/2 BA	Non-Potable Usage (gallons)																				11,000.00	12,000.00	10,000.00	11,000.00	11,000.00
14	3	3309 Kingfisher Cove Dr																									
		501B	Potable Usage (gallons)	1,100.00	900.00	1,600.00	1,500.00	1,100.00	700.00	100.00	–	400.00	1,700.00	1,600.00	1,900.00	1,000.00	300.00	1,400.00	1,100.00	600.00	800.00	800.00	–	700.00	1,000.00	900.00	922.00
		3 BD/2 BA	Non-Potable Usage (gallons)	–	–	–	–	–	10,000.00	25,000.00	21,000.00	20,000.00	11,000.00	11,000.00	–	–	–	–	–	–	–	9,000.00	10,000.00	10,000.00	10,000.00	9,000.00	6,347.00
15	4	3301 Sheltered Harbor Dr																									
		501A	Potable Usage (gallons)	100.00	800.00	400.00	500.00	500.00	500.00	800.00	200.00	400.00	400.00	800.00	1,500.00	1,300.00	500.00	500.00	500.00	300.00	500.00	500.00	500.00	2,700.00	400.00	400.00	652.00
		3 BD/2 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	10,000.00	9,000.00	14,000.00	15,000.00	15,000.00	–	–	–	–	–	1,000.00	17,000.00	18,000.00	15,000.00	15,000.00	15,000.00	15,000.00	6,956.00
18	4	3313 Sheltered Harbor Dr																									
		502A	Potable Usage (gallons)	1,400.00	3,700.00	2,700.00	3,200.00	3,400.00	3,100.00	4,100.00	3,600.00	3,700.00	3,800.00	3,200.00	3,300.00	3,400.00	3,200.00	3,100.00	3,000.00	3,500.00	4,000.00	4,000.00	3,800.00	4,700.00	3,400.00	4,000.00	3,447.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	8,000.00	9,000.00	10,000.00	9,000.00	9,000.00	–	–	–	–	–	–	6,000.00	6,000.00	11,000.00	10,000.00	10,000.00	10,000.00	4,304.00

Usage with Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots per Acre-Ft
Potable Average Monthly:	2,672.25	Gallons	NA	NA
Potable Average Annual:	32,067.00	Gallons	NA	NA
Potable Average Monthly (18% System Loss):	3,153.26	Gallons	NA	NA
Potable Average Annual (18% System Loss):	37,839.06	Gallons	11.61%	8.61

Usage without Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots per Acre-Ft
Potable Average Monthly:	2,672.25	Gallons	NA	NA
Non-Potable Average Monthly:	6,481.75	Gallons	NA	NA
Total Average Monthly:	9,154.00	Gallons	NA	NA
Potable Average Annual:	32,067.00	Gallons	NA	NA
Non-Potable Average Annual:	38,890.50	Gallons	NA	NA
Total Average Annual:	70,957.50	Gallons	21.78%	4.59
Potable Average Monthly (18% System Loss):	3,153.26	Gallons	NA	NA
Non-Potable Average Monthly (18% System Loss):	7,648.47	Gallons	NA	NA
Total Average Monthly (18% System Loss):	10,801.72	Gallons	NA	NA
Potable Average Annual (18% System Loss):	37,839.06	Gallons	NA	NA
Non-Potable Average Annual (18% System Loss):	45,890.79	Gallons	NA	NA
Total Average Annual (18% System Loss):	83,729.85	Gallons	25.70%	3.89

Appendix B

Average Internal Townhome Usage (Orchard Park Subdivision)

Address	Building Type	2 Bedrooms	3 Bedrooms	19-Jan	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total Monthly Usage Per Unit
3329 Apple Blossom	5 plex	3	2	16,000	15,000	12,000	14,000	14,000	14,000	13,000	15,000	15,000	14,000	14,000	14,000	15,000	16,000	15,000	16,000	12,000	15,000	2,833
3331 Apple Blossom	5 plex	3	2	13,000	13,000	11,000	14,000	12,000	14,000	13,000	13,000	13,000	12,000	14,000	14,000	15,000	15,000	17,000	19,000	14,000	16,000	2,600
3332 Apple Blossom	5 plex	3	2	7,000	9,000	9,000	11,000	9,000	4,000	5,000	4,000	11,000	11,000	10,000	11,000	9,000	10,000	10,000	10,000	9,000	7,000	1,683
3333 Apple Blossom	5 plex	3	2	9,000	11,000	8,000	11,000	10,000	10,000	10,000	11,000	9,000	10,000	11,000	9,000	10,000	10,000	12,000	12,000	10,000	10,000	1,983
3334 Apple Blossom	4 plex	3	1	15,000	15,000	13,000	15,000	12,000	12,000	11,000	12,000	12,000	10,000	12,000	10,000	11,000	14,000	13,000	12,000	10,000	9,000	3,104
3335 Apple Blossom	5 plex	3	2	12,000	12,000	10,000	12,000	12,000	11,000	16,000	27,000	9,000	10,000	12,000	12,000	13,000	11,000	10,000	15,000	12,000	13,000	2,583
3336 Apple Blossom	4 plex	3	1	8,000	7,000	7,000	7,000	8,000	8,000	6,000	7,000	6,000	6,000	6,000	7,000	6,000	7,000	7,000	7,000	8,000	7,000	1,729
6339 Orchard Park	3 plex	2	1	9,000	12,000	12,000	11,000	10,000	14,000	11,000	10,000	9,000	8,000	12,000	9,000	11,000	10,000	9,000	11,000	10,000	11,000	3,528
6349 Orchard Park	5 plex	3	2	18,000	21,000	17,000	21,000	21,000	21,000	20,000	16,000	21,000	24,000	18,000	13,000	16,000	18,000	16,000	14,000	16,000	15,000	3,850
6450 Orchard Park	4 plex	4	0	11,000	11,000	11,000	11,000	11,000	8,000	12,000	13,000	15,000	14,000	14,000	13,000	14,000	14,000	12,000	16,000	14,000	13,000	3,000
6455 Chardonnay	4 plex	3	1	18,000	19,000	16,000	16,000	13,000	15,000	9,000	11,000	15,000	11,000	13,000	12,000	10,000	11,000	9,000	11,000	11,000	10,000	3,500
6459 Orchard Park	5 plex	3	2	14,944	16,000	15,000	16,000	18,000	16,000	15,000	14,000	14,000	13,000	13,000	14,000	15,000	12,000	13,000	18,000	16,000	15,000	2,982
6460 Orchard Park	5 plex	3	2	16,000	13,000	13,000	11,000	13,000	12,000	11,000	12,000	12,000	11,000	9,000	9,000	7,000	14,000	12,000	13,000	13,000	11,000	2,367
																					AVERAGE:	2,749.50

Usage with Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots Per Acre-Ft
Potable Average Monthly:	2,749.50	Gallons	NA	NA
Potable Average Annual:	32,994.00	Gallons	NA	NA
Potable Average Monthly (18% System Loss):	3,244.41	Gallons	NA	NA
Potable Average Annual (18% System Loss):	38,932.92	Gallons	11.95%	8.37

Hines Inc

August 27, 2020

Mr. Zach Cesar
Baessler Residential Colorado, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar,

Hines has completed an analysis of the estimated water use for the Baessler Homes 500 Series floor plans provided by your office for the proposed development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	4-Bed Unit	Standard Water Use (GPM)	Water Sense Water Use (GPM)
Faucets	4	5	6	2.2	1.5
Toilets	2	3	3	1.6	1.28
Shower/Bath	2	2	2	2.5	2.0
Dishwasher	1	1	1	6 gal/cycle	4 gal/cycle
Clothes Washer	1	1	1	20 gal/cycle	14 gal/cycle

Occupancy statistics of previous developments completed by Baessler Homes indicate:

- 2-bedroom units average 1.8 occupants.
- 3-bedroom units average 2.0-2.5 occupants.
- 4-bedroom units average 3.2 occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances, they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately, water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency (per day)	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	0.143	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	0.285	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The frequency for bathing is based on an average occupant use of 1 bath per week.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for model **500**, based on occupant type.

*Table 3 – **2** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	1.8	103.6	37,817	0.12
Efficient	1.8	61.92	22,601	0.07
Average	1.8	82.8	30,209	0.09

Table 4 provides the estimated daily water use for model **501**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2	115.1	42,019	0.13
Efficient	2	68.8	25,112	0.08
Average	2	92.0	33,565	0.10

Table 5 provides the estimated daily water use for model **503**, based on occupant type.

*Table 5 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,221	0.14
Efficient	2.2	75.68	27,623	0.08
Average	2.2	101.2	36,922	0.11

Table 4 provides the estimated daily water use for model **504**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.5	143.9	52,524	0.16
Efficient	2.5	86	31,390	0.10
Average	2.5	115.0	41,957	0.13

Table 5 provides the estimated daily water use for model **505**, based on occupant type.

*Table 5 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.2	184.2	67,230	0.21
Efficient	3.2	110.08	40,179	0.12
Average	3.2	147.1	53,705	0.16

Hines Inc

August 27, 2020

Mr. Zach Cesar
Baessler Residential Colorado, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar,

Hines has completed an analysis of the estimated water use for the Baessler Homes 600 Series floor plans provided by your office for the proposed development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	4-Bed Unit	Standard Water Use (GPM)	Water Sense Water Use (GPM)
Faucets	5	5	6	2.2	1.5
Toilets	3	3	4	1.6	1.28
Shower/Bath	3	3	3	2.5	2.0
Dishwasher	1	1	1	6 gal/cycle	4 gal/cycle
Clothes Washer	1	1	1	20 gal/cycle	14 gal/cycle

Occupancy statistics of previous developments completed by Baessler Homes indicate:

- 2-bedroom units average 1.8 occupants.
- 3-bedroom units average 2.2-2.5 occupants.
- 4-bedroom units average 3.2-3.5 occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances, they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately, water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency (per day)	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	0.143	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	0.285	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The frequency for bathing is based on an average occupant use of 1 bath per week.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for model **601**, based on occupant type.

*Table 3 – **2** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	1.8	103.6	37,817	0.12
Efficient	1.8	61.92	22,601	0.07
Average	1.8	82.8	30,209	0.09

Table 4 provides the estimated daily water use for model **602**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,217	0.14
Efficient	2.2	75.68	27,623	0.08
Average	2.2	101.2	36,922	0.11

Table 5 provides the estimated daily water use for model **603**, based on occupant type.

*Table 5 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.5	143.9	52,519	0.16
Efficient	2.5	86	31,390	0.10
Average	2.5	114.9	41,954	0.13

Table 4 provides the estimated daily water use for model **604**, based on occupant type.

*Table 4 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.2	184.2	67,230	0.21
Efficient	3.2	110.08	40,179	0.12
Average	3.2	147.1	53,705	0.16

Table 5 provides the estimated daily water use for model **605**, based on occupant type.

*Table 5 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.5	201.4	73,527	0.23
Efficient	3.5	120.4	43,946	0.13
Average	3.5	160.9	58,736	0.18

HINES INC

July 27, 2020

Mr. Zach Cesar
Baessler Homes
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar

Hines has completed an analysis of the estimated water use for the Townhome Series floor plans provided by Baessler Homes proposed for the development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	Standard Water Use (GPM)	WaterSense/Energy Star Water Use (GPM)
Faucets	3	5	2.2	1.5
Toilets	2	3	1.6	1.28
Shower/Bath	1	2	2.5	2.0
Dishwasher	1	1	6 gallons/cycle	4 gallons/cycle
Clothes Washer	1	1	20 gallons/cycle	14 gallons/cycle

Occupancy statistics of previous developments completed by Hines, Inc. indicate:

- 2 bedroom unit average 1.5 average occupants
- 3-bedroom unit there are 2.2 average occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	1	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	2	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The use amounts for bathing have been expressed as weekly and have been adjusted by dividing 7 to get daily water use amounts.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for 2-bedroom units, based on occupant type.

Table 3 – 2 Bedroom unit daily water use

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal (60%)	1.5	86.3	31,514	0.0967
Efficient (40%)	1.5	51.6	18,834	0.0578
Average	1.5	72.4	26,442	0.0811

Table 4 provides the estimated daily water use for 3-bedroom units, based on occupant type.

Table 4– 3 Bedroom unit daily water use

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,221	0.1418
Efficient	2.2	75.68	27,623	0.0848
Average	2.2	106.3	38,782	0.1190

Colorado Water Planning and Analysis
Per Capita Water Use Research and Identification

June 2020
By
Nate Hines, President, Hines, Inc.
Edward Wranosky, Project Engineer, Hines, Inc.

BACKGROUND

Exceedingly high raw water costs have made it increasingly difficult to develop new properties along the Front Range of Colorado. The cost of raw water shares, which must be purchased and dedicated to the potable water provider, has risen to historic highs & threatens to price out many development projects & nearly eliminate housing affordability.

It is common for a municipality or water provider to require the developer to dedicate shares of water to meet future water needs of a dwelling unit. Many Front Range water providers require a percentage of an acre foot of water for each dwelling unit. Often up to one full acre foot of water is required. The price of water can vary depending on the quality and type of water share presented, however the average cost typically ranges from from $50,000 to $80,000 per acre foot. Just 10 years ago the average share price was less than $10,000.

This exponential increase in price for water per housing unit has driven this research into the underlying water dedication assumptions to verify there is a reasonable match between water dedication requirements and actual dwelling unit water use.

The following data and study information indicates the following:

- Historic raw water dedication requirements are extraordinarily high when compared to actual use in dwelling units
- Hines presents data gathered from several state & national sources, from several Colorado communities providing year over year water use data, & a model water efficiency community
- Additionally, Hines has compiled an Actual Water Use Case Study based on User Count, Fixture, & Dwelling Unit size which clearly validates the study information presented above
- Water use cases have been presented as Standard, Efficient users for ease of comparison
- The baseline comparison calculation is gallons per person per day

WATER USE SUMMARY

Dwelling unit size and the number of inhabitants impacts total residential dwelling unit water use. Historically, water use is based on the number of bedrooms per housing unit. This water use assumption is evident in the equation for sizing septic systems for rural homes without sanitary sewer availability. This same formula basing water use on the bedrooms per dwelling unit is translated into inhabitants for residential homes served by potable water systems and public sanitary sewer.

One Acre Foot of water yields 325,850 gallons. If we assume one-acre foot of water required per dwelling unit, this equates to 890 gallons per day available for residential water use. Two residents would have access to 445 gallons per day per resident. 1.5 residents could potentially utilize 590 gallons per person per day.

EVALUATION

HISTORIC WATER USE ESTIMATE CALCULATIONS

An indoor water use estimate popularized in the 1970's by the American Society of Civil Engineers[1] project engineers and surveys of household water use is estimated 120 gallons per person per day. This estimate of use is still used today to determine water requirements per dwelling unit. USGS has published significant data[2] indicating an historic average use of 80-100 gallons per person per day. The U.S. Census Bureau reports that the average Colorado residence is 2.49 persons per home[3], this would yield a total residential daily water use of 300 gallons per day – equivalent to 1/3rd of an acre-foot and often well below the required water dedication.

CURRENT WATER USE ESTIMATE CALCULATIONS

Per capita water use has been dropping precipitously the past 50 years due to increasingly efficient water use fixtures, a reduction in total persons per home, & other domestic trends such as an increase in dual person working families. Current national studies[4] indicate that standard household daily water use is 126 gallons per day. Assuming household with 2.49 persons, this indicates the standard water user utilizes 50 gallons of water use per person per day.

This is supported by Colorado specific water use information. Denver Water[5], following an extensive review of residential water use has set a moderate efficiency target for each resident of 40 gallons per person per day. It is important to note that this represents an expected efficiency achieved through the use of WaterSense[6] fixtures in homes.

Hines has reviewed year over year data compiled by several Front Range communities which indicate the daily per person interior water use ranges of 30 gallons/day – 60 gallons/day (note the larger range includes exterior landscape irrigation).

Colorado State Statute, Ch. 384, Consumer and Commercial Transactions specifically address a ban on non-watersense fixtures, it states:
6-7.5-102. Low-efficiency plumbing fixtures. (1) EFFECTIVE SEPTEMBER 1, 2016, A PERSON SHALL NOT SELL A NEW LOW-EFFICIENCY PLUMBING FIXTURE IN COLORADO. (2) THIS SECTION DOES NOT PREEMPT ANY ACTION OF A CITY, COUNTY, OR CITY AND COUNTY THAT PRESCRIBES ADDITIONAL OR MORE RESTRICTIVE WATER CONSERVATION REQUIREMENTS AFFECTING THE SALE, INSTALLATION, OR USE OF PLUMBING FIXTURES IF THE REQUIREMENTS COMPLY WITH THE STANDARD SPECIFIED IN SUBSECTION (1) OF THIS SECTION.

In examining an existing subdivision built in 2015, the Revive Community, in North Fort Collins provides data for an Efficiency Water Use case study. The community consists of townhomes with an average of 2 bedrooms & 2 bathrooms per unit. Larger duplex units include 2 or 3 bedrooms and 4 baths. All units have been fitted and maintained with EPA Certified WaterSense fixtures. Multiple year analysis[7] of this development indicates:

- Townhome daily water use of 29 gallons per day per resident
- Duplex daily water use of 35 gallons per day per resident

PROPOSED WATER USE MODIFICATIONS

Below is a summary of typical of residential units which could be served by one acre foot of water based on data presented above.

Average or Larger Dwelling Unit Water Use Estimate

60 gallons/person/day x **1.5** residents/dwelling unit = **90** gallons/day
90 gallons/day **x 365** days/year **= 32,850** gallons/year
32,850 gallons per year **÷ 7.4805** gallons/cf **= 4,391.406** cf/residential unit
43560 cf/acre foot **÷ 4,391.406** cf/residential unit **= 10** (9.92) residential units per Acre Foot

Efficient or Small Dwelling Unit Water Use Estimate

40 gallons/person/day x **1.5** residents/dwelling unit = **60** gallons/day
90 gallons/day **x 365** days/year **= 21,900** gallons/year
21,900 gallons per year **÷ 7.4805** gallons/cf **= 2,927.604** cf/residential unit
43560 cf/acre foot **÷ 2,927.604** cf/residential unit **= 15** (14.9) residential units per Acre Foot

Please note that residential unit usage may change based on both efficiency metrics and size of dwelling unit.

RECOMMENDATION

Based on the information presented above, it is clear that many, current raw water dedication requirements far exceed actual usage rates. They increase the expense of development and in many cases are cost prohibitive. This directly effects the affordability of housing on the Front Range of Colorado. Depending on the raw water dedication requirements of the subject municipality or water provider, a significant reduction may be available which would reduce overall costs for each home, identify water conservation opportunities, & earmark said waters for future use, population expansion, or drought preparation.

References:

Hines, Inc., 323 West Drake Road, Suite 204, Fort Collins, CO 80526

1. *ASCE – Manuals and Reports on Engineering Practice – No.37 (WPCF Manual of Practice No.9), Printed 1970, Headquarters of the Society, 345 East 47th Street, New York, New York, 10017*
2. *https://www.usgs.gov/special-topic/water-science-school/science/water-qa-how-much-water-do-i-use-home-each-day?qt-science_center_objects=0#qt-science_center_objects*
3. *https://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn139.html#:~:text=The_average_household_size_was,30.3_percent_that_were_rented.*
4. *https://www.awwa.org/Portals/0/AWWA/ETS/Resources/WaterConservationResidential_End_Uses_of_Water.pdf?ver=2016-04-14-14-135024-200*
5. *https://www.denverwater.org/sites/default/files/water-efficiency-plan.pdf*
6. *https://wwwhttps://www.epa.gov/watersense/watersense-products.*
7. *Information provided by Revive community management*

Magaly Morales-Tejada

From: Jose Gonzalez <jgonzalez@procodeinc.net>
Sent: Thursday, May 5, 2022 11:56 AM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006
Attachments: 000-Referral-Distribution-Sheet LUP2022-0006 Building.pdf

No concerns.

Thank you

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORT_LUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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This email was sent outside of your organization

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric ***transmission*** lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas ***distribution*** facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

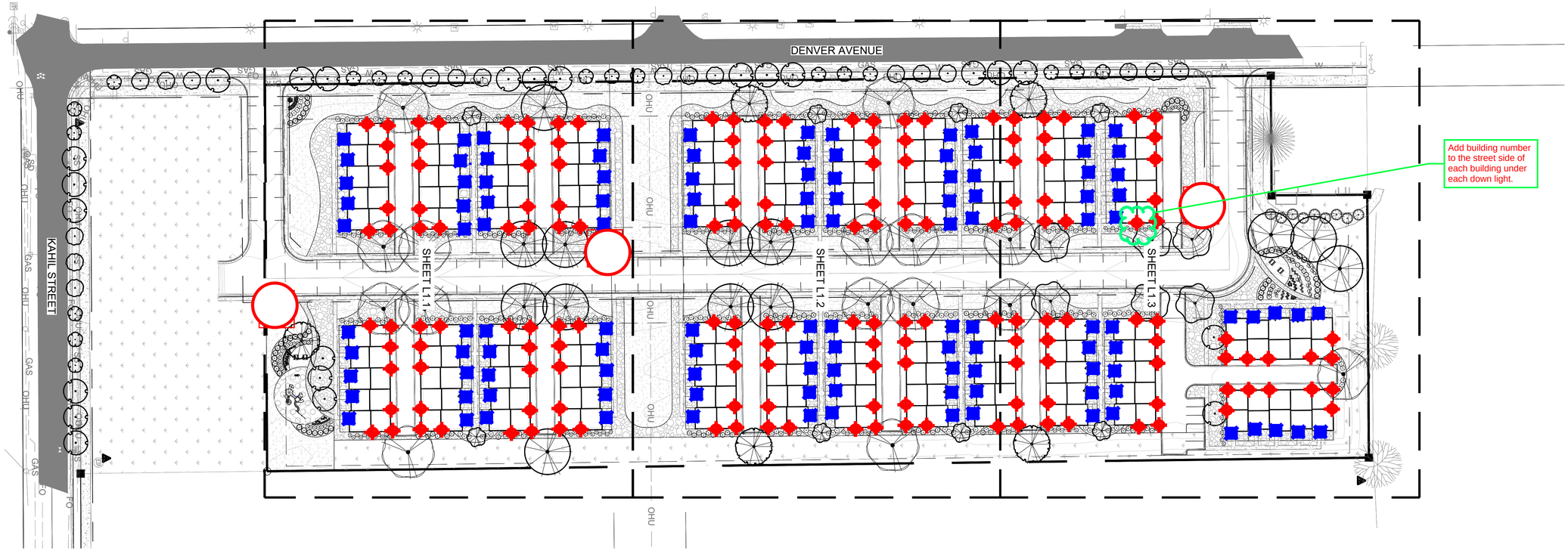
PSCo also has existing natural gas ***distribution*** facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

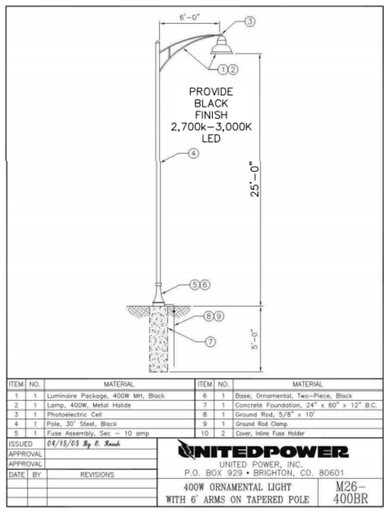
As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec – 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: R. Kanuk
APPROVAL	
APPROVAL	
DATE	BY REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26–400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

© 2021 Kichler Lighting LLC. All Rights Reserved.

SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

© 2021 Kichler Lighting LLC. All Rights Reserved.

SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



ALSO IN THIS FAMILY



Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH SCALE: 1"=80'-0" (0, 40, 80, 160)

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	01/17/2022

LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 05/10/2022
Project name: Flats at Lupton Village
Project address: Kahil & Denver Ave., Fort Lupton, CO 80621
FLFPD Project # R2022-022
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **Flats at Lupton Village** located at **Kahil & Denver Ave,** Fort Lupton, CO 80621. The referral was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The plan review Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*
3. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 8 inches (101.6 mm) high.

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. ~~LUP2021-0029~~ & PLAN No. ~~SPL2021-0001~~ LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

DEDICATION

Know all men by these presents, that we, Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of the land described herein, have caused said land to be laid out and platted under the name of Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION and do hereby dedicate to the City of Fort Lupton and it's licensees for public use forever all streets, alleys and utility easements as indicated hereon, in compliance with the City of Fort Lupton Subdivision Regulations and by contractual agreement, the landowners shall bear all expenses involved in improvements.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

Sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

OWNER'S APPROVAL

Know All Men By These Presents, that Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of

the land described herein, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

ary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

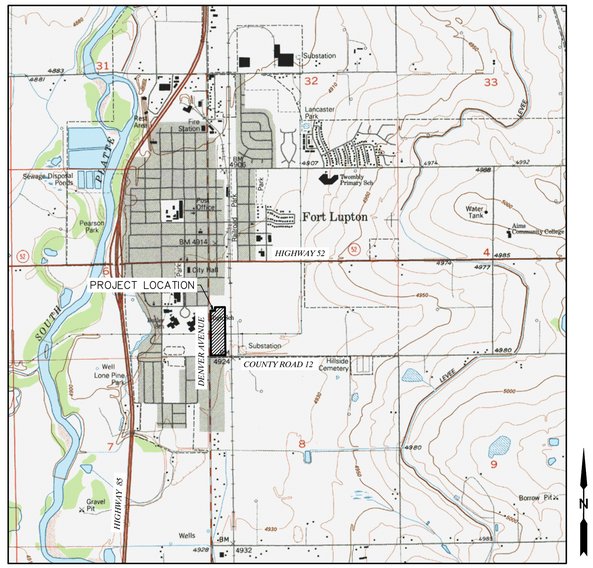
by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

Sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public



VICINITY MAP
SCALE – 1"=2000'

MAYOR'S CERTIFICATE

This is to certify that a plat of the above-described property was approved by Resolution No. 2022_____ of the City of Fort Lupton passed and adopted on the ____ day of _____ 20____ and that the Mayor of the City of Fort Lupton, as authorized by said resolution on behalf of the City of Fort Lupton, hereby acknowledges and adopts the said plat upon which this certificate is endorsed for all purposes indicated thereon.

_____
Mayor

Attest:

_____
City Clerk
(Seal)

CITY ADMINISTRATOR'S APPROVAL

Approved this _____day of _____, 20 _____.

_____
City Administrator

CITY WATER AND SEWER DEPARTMENT APPROVAL

Approved this _____day of _____, 20 _____.

_____
Director of Public Works

CITY ENGINEER'S APPROVAL

Approved this _____day of _____, 20 _____.

Accepted by: _____
City Engineer

DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1376.07 feet to the South line of the SW1/4 of said Section 5;
THENCE South 89°40'24" West along said South line a distance of 434.91 feet to the Southwest corner of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

SURVEYOR'S CERTIFICATE

I, Jason S. Allee, a duly registered land surveyor in the State of Colorado, do hereby certify that this Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION was performed by me or under my direct supervision, and that this Plat has been prepared in compliance with all applicable laws of the State of Colorado at the time of this survey and within my control, and is accurate to the best of my knowledge, information and belief.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S IMPROVEMENT CERTIFICATE

I hereby certify that, on the date shown, a field survey was conducted under my supervision of the above-described property, and that all building improvements, easements and rights-of-way in evidence or known to me are correctly shown on the above plat. I further certify that there are no encroachments by and/or on this property, unless otherwise noted.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

1. Total Surveyed Area: 12.15 Acres (±529,309 sq.ft.).

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Entire property is in Flood Zone X, areas of minimal flood hazard per FEMA Flood Map Number 08123C210E, effective on 01/20/2016. The referenced Federal Insurance Rate Map was not available for viewing. The FIRMette states the map is "Not Printed".

4. Current zoning is C-1 (General Commercial), per the City of Fort Lupton Interactive Zoning Map.

5. The 75' PSCO right-of-way easement is shown in the title commitment as being granted by an instrument recorded December 5, 1947 under Reception No. 1019613. the reception no. could not be found within the records of the Weld County Clerk and Recorder via the ICRIS self service document research system.

6. NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PROJECT CONTACTS:

DEVELOPER:
Lupton Village Land Developers, LLC
3780 W. 10th Street, Suite 200
Greeley, CO 80634
Ph: (970)702-2009
Andrew J. Gerk

ENGINEER:
LandOne Engineering LLC
361 71st Avenue
Greeley, CO 80634
Ph: (970)443-2311
Jeremy Goetsch, PE

SURVEYOR:
Lat40°, Inc.
6250 W. 10th Street, Unit 2
Greeley, CO 80634
Ph: (970)515-5294
Jason Allee, PLS

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

1
SHEET 1 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

SCALE – 1"=30'

SOUTH QUARTER CORNER
SECTION 5, T.1N., R.66W.
FOUND #6 REBAR WITH 2.5"
ILLEGIBLE ALUMINUM CAP
1.0' BELOW ROAD SURFACE

FOUND #6 REBAR

UNION PACIFIC RAILROAD
(400' Right-of-Way)

S 00°42'16" E 1376.07'
1151.07'
75.00'
382.04'
400'
182.50'
30.00'
12.50'
30'
30'

S 00°30'45" E 491.00'
N 00°30'45" W 491.00'
S 00°30'45" E 77.36'
S 00°30'45" E 276.00'
N 00°30'45" W 284.00'
N 28°21'04" W 86.35'
N 89°29'15" E 176.49'
S 89°29'15" W 111.17'
N 89°29'15" E 111.17'
S 89°29'15" W 111.17'
32.00'
8.00'

LOT 41 ±1,174 sq.ft.
LOT 40 ±1,181 sq.ft.
LOT 39 ±1,181 sq.ft.
LOT 38 ±1,181 sq.ft.
LOT 37 ±1,174 sq.ft.
LOT 36 ±1,174 sq.ft.
LOT 35 ±1,181 sq.ft.
LOT 34 ±1,181 sq.ft.
LOT 33 ±1,181 sq.ft.
LOT 32 ±1,174 sq.ft.
LOT 31 ±1,174 sq.ft.
LOT 30 ±1,181 sq.ft.
LOT 29 ±1,181 sq.ft.
LOT 28 ±1,181 sq.ft.
LOT 27 ±1,174 sq.ft.
LOT 26 ±1,174 sq.ft.
LOT 25 ±1,181 sq.ft.
LOT 24 ±1,181 sq.ft.
LOT 23 ±1,181 sq.ft.
LOT 22 ±1,174 sq.ft.
LOT 21 ±1,174 sq.ft.
LOT 20 ±1,181 sq.ft.
LOT 19 ±1,181 sq.ft.
LOT 18 ±1,181 sq.ft.
LOT 17 ±1,174 sq.ft.
LOT 16 ±1,174 sq.ft.
LOT 15 ±1,181 sq.ft.
LOT 14 ±1,181 sq.ft.
LOT 13 ±1,181 sq.ft.
LOT 12 ±1,174 sq.ft.
LOT 11 ±1,174 sq.ft.
LOT 10 ±1,181 sq.ft.
LOT 9 ±1,181 sq.ft.
LOT 8 ±1,181 sq.ft.
LOT 7 ±1,174 sq.ft.
LOT 6 ±1,174 sq.ft.
LOT 5 ±1,181 sq.ft.
LOT 4 ±1,181 sq.ft.
LOT 3 ±1,181 sq.ft.
LOT 2 ±1,174 sq.ft.

-OUTLOT A-
3.19 Acres
(±138,840 sq.ft.)
UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

5' UTILITY EASEMENT

75' PSCO RIGHT-OF-WAY EASEMENT NOTED IN RECEPTION No. 2453889, RECORDED NOVEMBER 16, 1998

-LOT 1-
1.52 Acres
(±66,238 sq.ft.)

963.54'
S 00°30'45" E 987.80'
24.26'
392.27'
176.49'
S 89°40'24" W 404.81'
434.91'
BASIS OF BEARINGS: N 89°40'24" E 2631.31'
COUNTY ROAD 12
(60' Right-of-Way)

~~LUPTON CIRCLE~~
(50' Right-of-Way)
1.60 Acres (±69,622 sq.ft.)

This will need to be re-named and will need a "South" directional prefix

N 00°30'45" W 919.78'
N 44°29'15" E 22.46'
-OUTLOT B-
2.13 Acres
(±92,728 sq.ft.)
UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

LOT 83 ±1,174 sq.ft.
LOT 84 ±1,181 sq.ft.
LOT 85 ±1,181 sq.ft.
LOT 86 ±1,181 sq.ft.
LOT 87 ±1,174 sq.ft.
LOT 88 ±1,174 sq.ft.
LOT 89 ±1,181 sq.ft.
LOT 90 ±1,181 sq.ft.
LOT 91 ±1,181 sq.ft.
LOT 92 ±1,174 sq.ft.
LOT 93 ±1,174 sq.ft.
LOT 94 ±1,181 sq.ft.
LOT 95 ±1,181 sq.ft.
LOT 96 ±1,181 sq.ft.
LOT 97 ±1,174 sq.ft.
LOT 98 ±1,174 sq.ft.
LOT 99 ±1,181 sq.ft.
LOT 100 ±1,181 sq.ft.
LOT 101 ±1,181 sq.ft.
LOT 102 ±1,174 sq.ft.
LOT 103 ±1,174 sq.ft.
LOT 104 ±1,181 sq.ft.
LOT 105 ±1,181 sq.ft.
LOT 106 ±1,181 sq.ft.
LOT 107 ±1,174 sq.ft.
LOT 108 ±1,174 sq.ft.
LOT 109 ±1,181 sq.ft.
LOT 110 ±1,181 sq.ft.
LOT 111 ±1,181 sq.ft.
LOT 112 ±1,174 sq.ft.
LOT 113 ±1,174 sq.ft.
LOT 114 ±1,181 sq.ft.
LOT 115 ±1,181 sq.ft.
LOT 116 ±1,181 sq.ft.
LOT 117 ±1,174 sq.ft.
LOT 118 ±1,174 sq.ft.
LOT 119 ±1,181 sq.ft.
LOT 120 ±1,181 sq.ft.
LOT 121 ±1,181 sq.ft.
LOT 122 ±1,174 sq.ft.

S 00°30'45" E 494.00'
N 00°30'45" W 494.00'
S 00°30'45" E 77.36'
S 00°30'45" E 284.00'
N 00°30'45" W 284.00'
N 28°34'45" E 57.84'
S 89°29'15" W 215.17'
N 89°29'15" E 147.17'
12.5' OF ADDITIONAL RIGHT OF WAY (DEDICATED BY THIS PLAT) 0.47 Acres (±20,477 sq.ft.)
50.00'
157.54'

-OUTLOT B-

880.78'
555.14'
75.00'
N 00°30'45" W 1245.88'
30'
30'
1275.86'
30'
30'
N 00°30'45" W 2649.50'

DENVER AVENUE
(60' Right-of-Way)

S Denver Avenue

POINT OF BEGINNING
SOUTHWEST CORNER
SECTION 5, T.1N., R.66W.
FOUND BENT #6 REBAR
1.0' BELOW ROAD SURFACE
TO BE UPGRADED

Updated Parcel 1470364000027 School District No. RE-8

Updated Parcel 1470364000027 School District No. RE-8

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

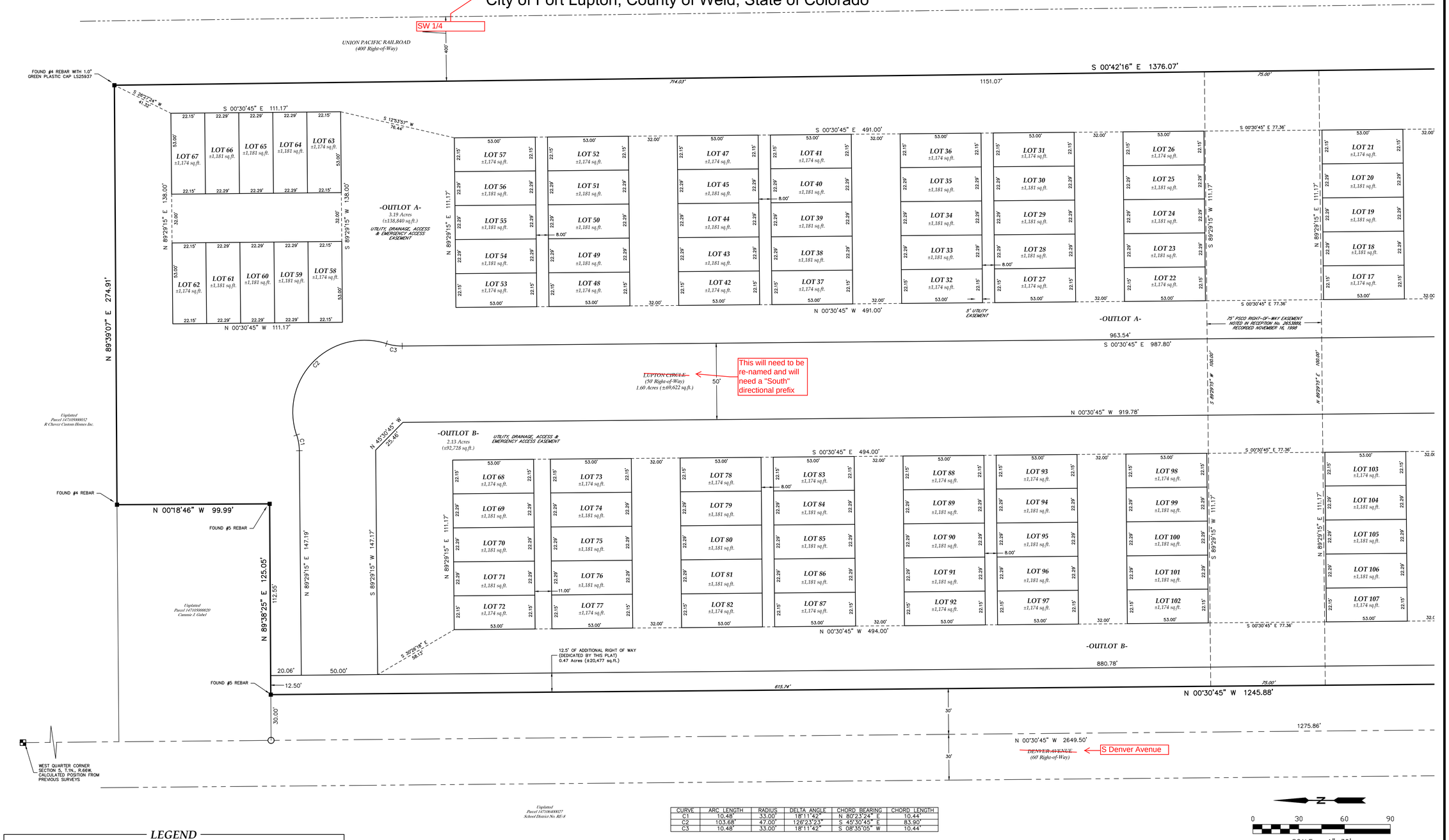
PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado

SW 1/4



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'23"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

N

0 30 60 90

SCALE – 1"=30'

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3
SHEET 3 OF 3

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, May 25, 2022 3:21 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Friday, May 6, 2022 9:52 AM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

External Message - Please be cautious when replying or opening links or attachments in this email

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a special use permit being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/664.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 27, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORT_UPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 2, 2022 1:51 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006

No law enforcement issues.

Chief John Fryar

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

CITY OF
Fort Lupton
EST 1836

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Jeremy Goetsch (Land One)

From: Roy Vestal

Date: May 24, 2022

Subject: Flats at Lupton Village LUP2022-0006
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Final Plat submittal. Be advised, review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Plat**
   a. Reservation of well pad site is required in the southeast corner of Lot 1.
   b. We will find the document and provide.
   c. Notes documenting "Private" infrastructure and maintenance responsibility will need to be added.

2. **Drainage**
   a. Drainage Analysis as submitted is acceptable.
   b. If the internal streets are accepted as public ROW, the HDPE may not be used for storm sewer. *Construction Standards - Section 5.44.01* - Only RCP for storm sewers is allowed in public ROW. *Drainage Criteria Manual Chapter 8 - "HDPE pipe is only permitted in privately owned and maintained installations."*

3. **Transportation**
   a. Additional ROW dedications are acceptable.

4. **Landscape / Grading** - *Chapter 2 Design Standards*
   a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
   b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

5. **Utilities**
    a. **Water - Chapter 3**
        i. City water main is located in S Denver Avenue.
        ii. Sheet 8 - Shows potable line connecting to the nonpotable water main.
        iii. **3.18.04 Sanitary Sewer Line Crossing Over A Waterline** *In all cases, regardless of vertical clearance, the sanitary sewer shall be encased in concrete a minimum of nine feet on each side of the centerline of the crossing or polyvinyl chloride pressure pipe in accordance with American Water Works Association C900, pressure class 305 psi may be used*. Sheets C9.1 and C9.2 - Designate sanitary sewer line at water line crossings as C900 pipe one solid stick of pipe centered on crossing.
        iv. Sheet C9.3 - 2" water service crossing shows as 15-feet deep?

    b. **Non Potable Irrigation**
        i. Landscape plans need to indicate intended irrigation plans. Overall Utility plan should show intended meter location and size.

    c. **Sanitary Sewer - Chapter 4**
        i. The hydraulic analysis needs to include downstream capacity analysis to determine effects on the existing system.
        ii. The City's sanitary sewer main does not extend east in Kahil. The manhole located at the corner of S Denver and Kahil is only stubbed out about 2-feet.
        iii. Sheet C9.2 - Show existing water main crossings in profile.
        iv. Sheet C9.1 and C9.2 - label invert out of existing manholes.
        v. ***4.14.01 General*** *- The minimum diameter for sanitary sewer mains shall be 8 inches*. Sheet C9.3 - If the pipe from SSMH8 to CO 10 is intended to be City maintained, it must be 8-inches and end in a manhole instead of a clean out. It is acceptable to leave as is, and it is considered a service line, which the City does not maintain.

    d. **Storm Sewer - Chapter 5**
        i. Sheet C13.4 - The existing storm drain in Kahil is not accurately depicted. The inlets on the south side cross Kahil and connect to the storm sewer along the north side. Sheet C8.0 correctly shows the existing storm sewer along Kahil.
        ii.

    e. **Roadway - Chapter 6**
        i. Ramp and cross walks required at Kahil and S Denver (E-W and N-S).

ii. Can S Denver have a consistent 2% cross slope? Provide centerline profile design with the 0.3% slope (seems like a close match to existing.
iii. The internal streets do meet the cross section requirements of public ROW, however, prior precedent has established these developments as being private streets. Planning Commission and City Council will have to accept as public ROW.
iv. *Section 6.33.00* A Pavement Design Report is required prior to roadway paving. City preferred pavement section is a composite section of asphalt surface with Class VI base.
v. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The northern most tree at the north drive access may be an issue. The 2 trees on each side of the southern access appear to be problematic.

f. Traffic Control - Chapter 8

i. The Traffic Study as submitted is acceptable.

6. **Public Improvement Agreement** – A Subdivision Improvements Agreement will be required for the construction of roadways, water, sewer and nonpotable water systems. See attached template.

7. A Geotechnical report for final pavement design will be required prior to paving.

There may be additional concerns as this design develops.

May 20, 2022

City of Fort Lupton
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: LUP-2022-0006 – Flats at Lupton Village

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Flats at Lupton Village. After review of the information, we have the following comments:

- It was unclear where it is intended to install electric. United Power requires continuous dry utility easements for reliable electric facility installation. This allows us to install electric facilities in a continuous manner for our loop feed which provides reliability.

  We prefer the separation of gas and electric. Typically, with electric in the rear of the subdivision lots. We will need 8' to 10' wide dry utility easements in the rear of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts.

  If gas and electric will be sharing an easement, we will need a 10' to 15' wide dry utility easements in the front of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts as well.

- Easements utilized by United Power cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

- **Tracts/Open Space/Parks** – United Power prefers dedicated blanket utility easement use within tracts as this gives us the opportunity to set above ground equipment, coordinated with the developer, and limit the impact to home lots. If Blanket utility easement(s) cannot be given, we will need a 10' to 12' wide dry utility easements along the perimeter of all tracts, along perimeter of tracts abutting roads, and through tracts between lots.

- **Streetlights** – When streetlight locations are identified in a subdivision, we need a 5' wide dry utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc. Please note, if we do not get these through the platting process, we will have to get individual ones during the design which will slow United Power's ability to start construction significantly.

- **Landscaping within a Utility Easement** - When landscaping in utility easements, please keep in mind that we can only have shallow rooting vegetation such as small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines. The trunk/base of the tree(s) should be minimum of 5' away from the underground electric line with no trees planted under overhead lines. Any landscaping should be a minimum clearance distance of 15' from the front and both sides of equipment such as transformers, and cabinets, etc. and five feet from the back to allow a backhoe if needed.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas *distribution* facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

PSCo also has existing natural gas *distribution* facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Sign Posting Affidavit
Flats at Lupton Village Preliminary & Final PUD
Project No. LUP2022-0006;
Plan Nos. PPL2022-0001; FPL2022-0001 & COZ2022-003



Facing S DENVER AVE



Facing WCR 12

I, MITCHELL NELSON hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 25 day of MAY, 2022.

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Mitchell Nelson, this 25 day of May, 2022. Witness my hand and seal.

My commission expires 6/17/2023.

Notary Public

MELISSA WHEELER
Notary Public
State of Colorado
Notary ID # 20194022905
My Commission Expires 06-17-2023

(SEAL)

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a Preliminary and Final PUD Plat known as the Flats at Lupton Village Preliminary and Final PUD Plat, located east and adjacent to South Denver Avenue and north and adjacent to County Road 12 within the City of Fort Lupton, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:
BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET

Legal Notice No. FLP634
First Publication: May 19, 2022
Last Publication: May 19, 2022
Publisher: Fort Lupton Press

Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 24th day of May, 2022, a true and correct copy of the foregoing Notice of Public Hearings and Site Plan Map for the Flats at Lupton Village PUD Preliminary and Final Plat Use Permit was sent via U.S. Mail, postage pre-paid, to the following addresses:

PUBLIC SERVICE COMPANY OF COLORADO
TAX SERVICES DEPT PO BOX 1979
DENVER, CO 802011979

ALLOUR LINDA L
605 1/2 S PARK AVE
FORT LUPTON, CO 806211230

ANGUIANO JORGE A
321 S PARK AVE
FORT LUPTON, CO 806211321

BISHOP RYAN
311 S DENVER AVE
FORT LUPTON, CO 806211309

CERETTO MICHAEL W
13144 COUNTY ROAD 12
FORT LUPTON, CO 806218348

CHEANG JUSTINE ALEXANDRA HUYNH
11 FEDERAL BLVD STE 5
DENVER, CO 802191544

CLARK NATHAN T
320 S PARK AVE
FORT LUPTON, CO 806211322

CROSS LAURENCE R
654 S DENVER AVE
FORT LUPTON, CO 806211202

DECHANT DUSTIN R
635 S PARK AVE
FORT LUPTON, CO 806211230

HOUSING AUTHORITY OF TOWN OF FT LUPTON
400 2ND ST
FORT LUPTON, CO 806211959

KESSLER KELLY L
326 S PARK AVE
FORT LUPTON, CO 806211322

MEYER JAMES E
328 S PARK AVE
FORT LUPTON, CO 806211322

MONK EDITH
610 S PARK AVE
FORT LUPTON, CO 806211231

MT CALVARY EVANGELICAL LUTHERN
650 S PARK AVE
FORT LUPTON, CO 806211231

PEINADO JESUS
243 S DENVER AVE
FORT LUPTON, CO 806211307

PUBLIC SERVICE CO OF COLO
TAX SERVICE DEPARTMENT PO BOX 1979
DENVER, CO 802011979

SCHOOL DIST No. RE-8
301 REYNOLDS ST
FORT LUPTON, CO 806211329

SEMROSKA RANDY W
333 S PARK AVE
FORT LUPTON, CO 806211321

DILLER TIMOTHY G
645 S PARK AVE
FORT LUPTON, CO 806211230

ESCARCEGA ARMANDO
803 2ND ST
FORT LUPTON, CO 806211804

FTL LAND ASSEMBLAGE LLLP
1295 MAIN ST UNIT 5
WINDSOR, CO 805505919

GABEL CAMMIE J
6192 SAGE AVE
FIRESTONE, CO 805045555

HANSEN RONALD D
644 S DENVER AVE
FORT LUPTON, CO 806211202

HELM ERICH
315 S DENVER AVE
FORT LUPTON, CO 806211309

HERNANDEZ JUAN
625 S PARK AVE
FORT LUPTON, CO 806211230

WHITE BUSHROD B
337 S PARK AVE
FORT LUPTON, CO 806211321

SHOCKLEY KATELIN B
312 S PARK AVE
FORT LUPTON, CO 806211322

SMITH NANCY MARGARET
329 S PARK AVE
FORT LUPTON, CO 806211321

SPURLIN SARBINA G
664 S DENVER AVE
FORT LUPTON, CO 806211202

TERRY PATRICIA L TRUST
1312 DENVER AVE
FORT LUPTON, CO 806212638

TORBET ROBERT P IV
305 S DENVER AVE
FORT LUPTON, CO 806211309

UNITED POWER INC
500 COOPERATIVE WAY
BRIGHTON, CO 806038728

WAMBOLT HERBERT H
1049 HOOVER AVE
FORT LUPTON, CO 806212619

FORT LUPTON COMMERCIAL
1540 MAIN ST
STE 218/303
WINDSOR, CO 80550

CITY OFFICIAL

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
www.fortluptonco.gov

Phone: 303.857.6694
Fax: 303.857.0351

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a Preliminary and Final PUD Plat known as the Flats at Lupton Village Preliminary and Final PUD Plat, located east and adjacent to South Denver Avenue and north and adjacent to County Road 12 within the City of Fort Lupton, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

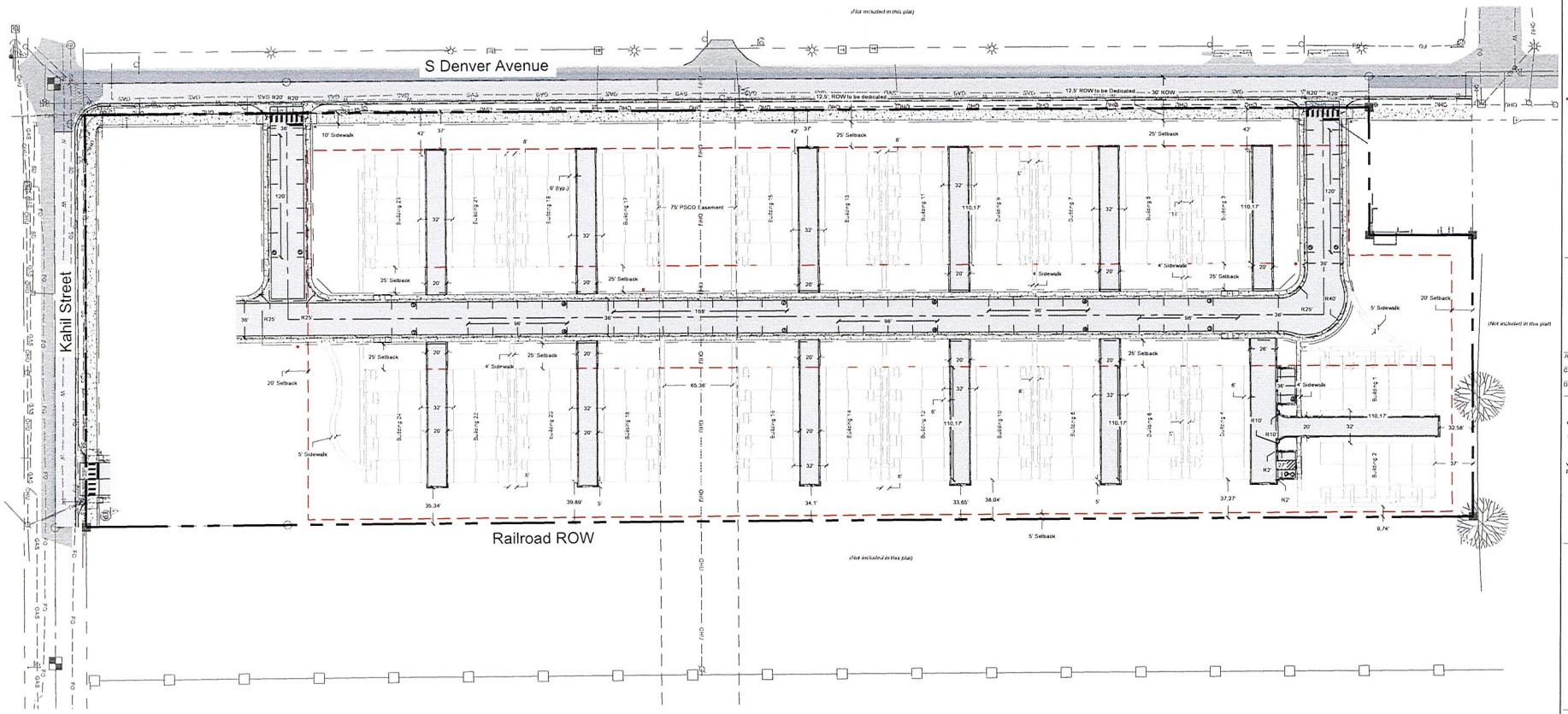
ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: FLATS AT LUPTON VILLAGE

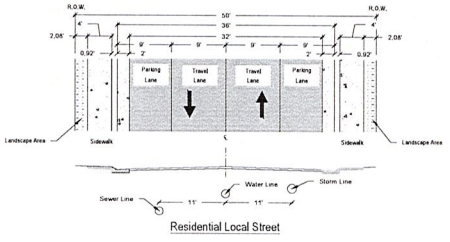
ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

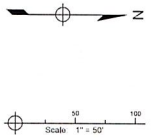
THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:

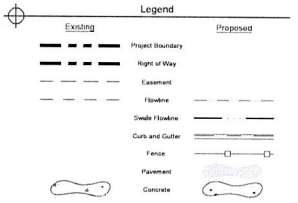
BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET





Residential Local Street





LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY NOT FOR CONSTRUCTION

Job Number: 21-031
Checked by: JG
Date: 04/20/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	12/12/2022	1st Submittal to City
B	04/20/2022	2nd Submittal to City

The Flats at Lupton Village
Preliminary Plat
Fort Lupton, CO

Sheet C1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\PUD Preliminary Plat 21-031.dwg, 4/12/2022 12:19:36 PM, Sam Boyd, LandOne Engineering

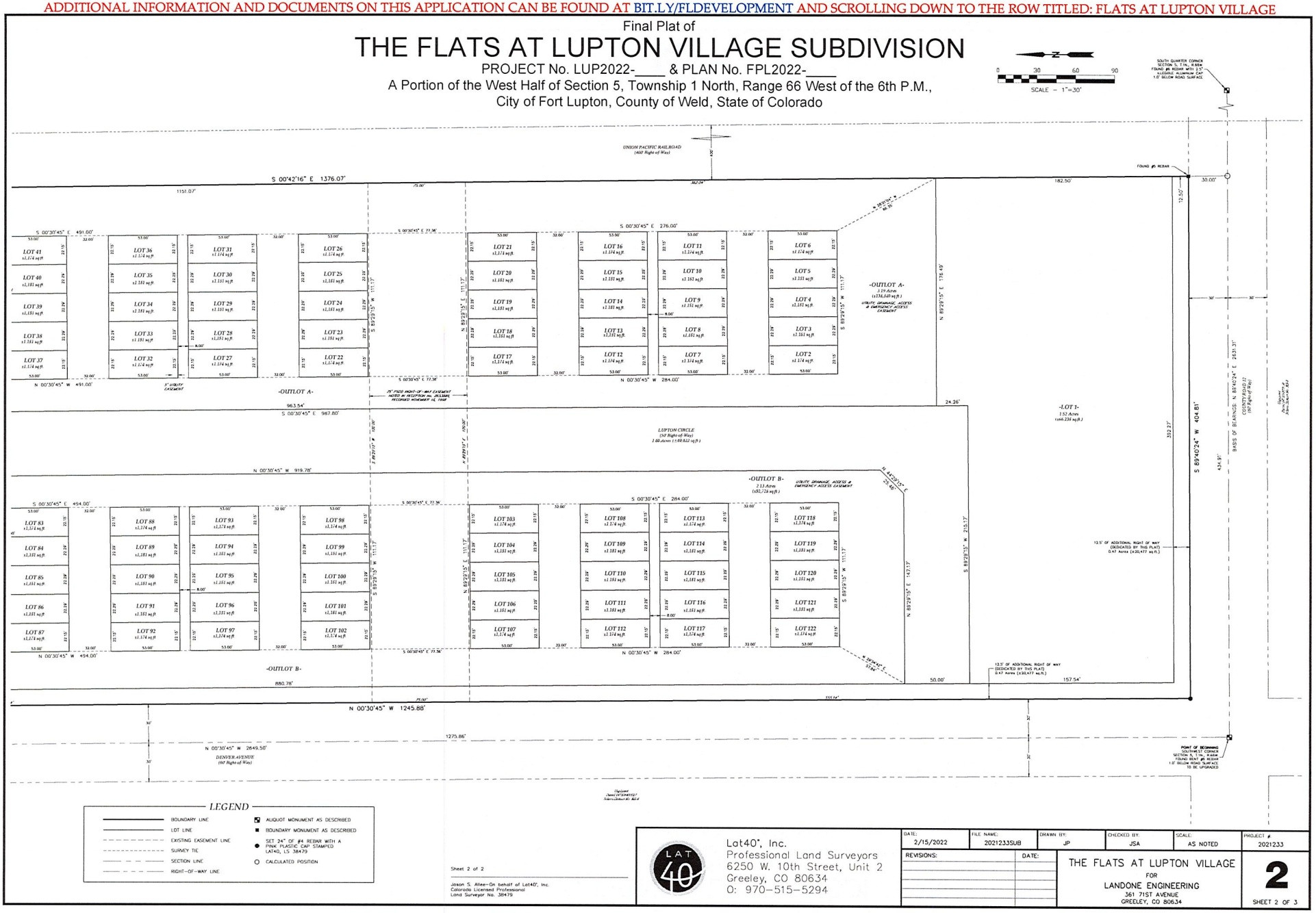
ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: FLATS AT LUPTON VILLAGE

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS: DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

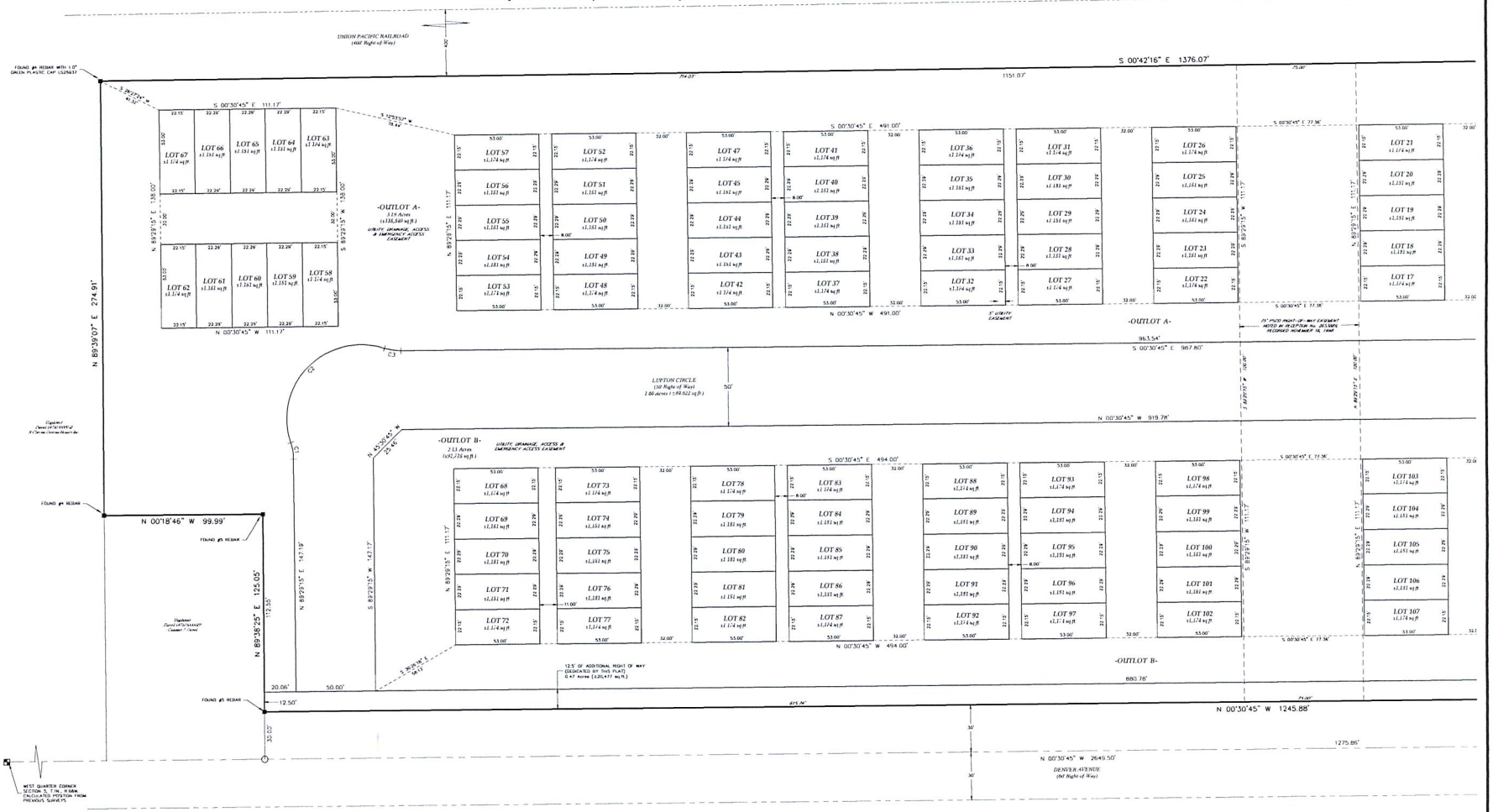
2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'21"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

SCALE - 1"=30'

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS: | DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3
SHEET 3 OF 3

City Council Meeting
Date: July 5, 2022
Staff: Molly Nelson -Planner I

AM 2022-110
Consent Agenda☐
Action Memorandum☒
Public Hearing☐

SUBJECT FOR DISCUSSION

A Resolution Approving a Request for a Special Use Permit for a Short-Term Rental Located on Denver Avenue. This Site is Situated West and Adjacent to Denver Avenue and Approximately 0.01 miles North of 7th Street.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

Pamela Miller-Chavez (the "Applicant") has submitted a request for a special use permit for a short-term rental located at 711 Denver Avenue. The rooms within the short-term rental will not be rented out separately, but instead will be rented by the same party when being rented. The short-term rental has proposed quiet hours from 9:00pm to 7:00am with two available parking spaces, in addition to street parking.

The Property is located within the 'C-1' General Commercial District, which does not list short-term rentals as a use by right and therefore requires a special use permit. The area is designated as General Commercial on the Future Land Use Map.

Section 16-7(d) states that the City shall use the following criteria to evaluate the Applicant's request:

1. The special use shall satisfy all applicable provisions of the Code and shall be consistent with the intent of the Comprehensive Plan.

   Staff Comment: The Applicant has been working with City staff to comply with applicable provisions of the Code, and has submitted all required special use permit application materials as required.

2. The special use shall not substantially alter the character of the district or the neighborhood.

   Staff Comment: The property is surrounded by general commercial and residential office zoning districts. The proposed short-term rental will have minimal impact to neighboring properties.

3. The special use will result in efficient on- and off-site traffic circulation, and will not have an adverse impact on adjacent uses or present hazardous conditions for pedestrians or vehicles.

   Staff Comment: The Public Works Director has reviewed the Traffic Memo. There are no roadway improvements required at this time

4. Adequate conditions of approval shall address: traffic; activity levels; light; noise; odor; building type, style and scale; hours of operation; dust; erosion and other performance issues identified through the public hearing process.

   Staff Comment: These items are addressed in the code, as well as addressed as conditions of approval on the proposed resolution.

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

5. The term of the special use permit and any reporting and inspection requirements as might be reasonably necessary to ensure compliance with conditions of approval may also be specified by the City Council.

   Staff Comment: A special use permit in non-transferable, and therefore if a new owner were to occupy the Property, the short-term rental will no longer be permitted unless a new application was submitted and approved. The Planning Department staff will ensure compliance with other conditions of approval, either as listed on the proposed Resolution or as added by City Council.

FINANCIAL CONSIDERATIONS

The Applicant has paid all applicable land use application fees and is covering ongoing review expenses.

LEGAL/POLITICAL CONSIDERATIONS

The proposed use is not a specific listed use by right in the 'C-1' Commercial Zone District. The intent of the special use permit is to provide flexibility, to provide a means for setting performance standards for individual land uses and to help diversify uses within a zoning district. A special use review requires a public hearing before Planning Commission and City Council.

All notification requirements were met, including posting notice of the hearings on the property at least 15 days prior to this public hearing, mailing notice to property owners within 100 feet of the site, and publishing notice of the hearing at least 15 days prior to the hearing.

ALTERNATIVES/OPTIONS

The City Council has the following three options for each request:

a) Approve the request;
b) Deny the request; or
c) Refer the request back to Planning Commission for further study.

STAFF RECOMMENDATIONS

Staff recommends conditional approval of the 711 Denver Avenue Special Use Permit for a short-term rental. The conditions are listed in the proposed Resolution provided to Council.

Attachments:

a. Proposed Resolution
b. Planning Commission Resolution
c. Planning Commission Minutes
d. Staff Report
e. Land Use Application
f. Special Use Permit Application
g. Project Description
h. Site Survey
i. Floor Plans
j. Referral Responses
k. Legal Notifications

RESOLUTION NO. 2022RXXX

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING A SPECIAL USE PERMIT FOR A SHORT-TERM RENTAL.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing the application from Pamela Miller-Chavez for a special use permit for a self-storage facility; and

WHEREAS, after review of the application and supporting information, and consideration of staff comments, applicant's presentation and any public input, the Planning Commission recommended approval, with conditions, of the special use permit application; and

WHEREAS, the City Council held a public hearing to consider and review the request for the special use permit on July 5, 2022; and

WHEREAS, after review of the application and supporting information, the City Council finds that the special use permit conforms to Colorado Revised Statutes and City codes and policies therein, and

WHEREAS, all legal requirements for the public hearing have been met, including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site; and

NOW THEREFORE BE IT RESOLVED that the Fort Lupton City Council reviewed the plans and supporting documentation, referral comments, as well as any citizen input in response to this application. Based upon the review of applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Zoning Regulations, and analysis of referral comments and the facts presented on this date, the City Council hereby approves the 711 Denver Avenue Special Use Permit for a short-term rental, with the following conditions:

I. Prior to recording the special use permit map:

A. The title of the special use permit map shall include the Project No.: LUP2022-0009 & Plan No. SUP2022-0002.

B. Any redline comments provided by City staff shall be made to the special use permit map.

C. Applicant shall submit a special use permit map that complies with standards as described in Sec. 16-173(b)(1) for review by City staff. Any redline comments provided by City staff shall be made to the special use permit map.

D. Applicant shall provide written evidence that the comments from the Fort Lupton Fire Protection District have been adequately addressed.

E. Applicant shall submit an architectural plan that includes all information requested by the Building Official for review.

F. Applicant shall provide written acknowledgement of the comments from United Power.

G. The following notes shall be placed on the site plan:

1. Occupancy of the residence is limited to 10 or fewer total occupants and 5 or fewer guestrooms.

2. The property shall be maintained to the curb, or roadway if no curb exists.

3. Any proposed change of ownership shall be submitted to the City for review and approval prior to the ownership transfer.

H. Applicant shall submit a PDF of the updated special use permit map for review and approval prior to printing Mylars.

II. Prior to release of building permit:

One set of Mylars of the special use permit map shall be submitted for recording with the Weld County Clerk & Recorder.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL THIS 5TH DAY OF JULY 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RESOLUTION NO. P2022-015

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF A SPECIAL USE PERMIT FOR A SHORT-TERM RENTAL, KNOWN AS THE 711 DENVER AVENUE SPECIAL USE PERMIT, ON A PROPERTY LOCATED IN A PART OF THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing the application from Pamela Miller-Chavez for a special use permit for a short-term rental; and

WHEREAS, after review of the application and supporting information, the Planning Commission finds that the special use permit conforms to Colorado Revised Statutes and City codes and policies therein; and

WHEREAS, all legal requirements for the public hearing have been met including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of the 711 Denver Avenue Special Use Permit for a short-term rental, conditional upon the following:

I. Prior to recording the special use permit map:

A. The title of the special use permit map shall include the Project No.: LUP2022-0009 & Plan No. SUP2022-0002.

B. Applicant shall submit a special use permit map that complies with standards as described in Sec. 16-173(b)(1) for review by City staff. Any redline comments provided by City staff shall be made to the special use permit map.

C. Applicant shall provide written evidence that the comments from the Fort Lupton Fire Protection District have been adequately addressed.

D. Applicant shall submit an architectural plan that includes all information requested by the Building Official for review.

E. Applicant shall provide written acknowledgement of the comments from United Power.

F. The following notes shall be placed on the site plan:

1. Occupancy of the residence is limited to 10 or fewer total occupants and 5 or fewer guestrooms.

2. The property shall be maintained to the curb, or roadway if no curb exists.

3. Any proposed change of ownership shall be submitted to the City for review and approval prior to the ownership transfer.

G. Applicant shall submit a PDF of the updated special use permit map for review and approval prior to printing Mylars.

H. One set of Mylars of the special use permit map shall be submitted for recording with the Weld County Clerk & Recorder.

DONE THIS 23th DAY OF JUNE, 2022, BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

_____
Chairman

ATTEST:

_____
Planning Director

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

711 DENVER AVENUE SPECIAL USE PERMIT STAFF REPORT
PROJECT NO. LUP2022-0009 AND PLAN NO. SUP2022-0002

PROJECT DESCRIPTION

Project No.: LUP2022-0009 / Plan No.: SUP2022-0002

Project Name: 711 Denver Avenue Special Use Permit

Owner's Name: Pamela Miller-Chavez ("Applicant") and David A. Chavez

Location of Request:

This site is situated west and adjacent to Denver Avenue and approximately 0.01 miles north of 7th Street. The address is 711 Denver Avenue, Fort Lupton CO 80621 (the "Property"). The Property is located in part of the Northeast Quarter of Section 6, Township 1 North, Range 66 West of the 6th P.M., Fort Lupton, County of Weld, State of Colorado.



The Property is directly surrounded by C-1 General Commercial zoning to the north, east and south and R-O Residential and Office zoning to the west. Surrounding uses are generally commercial or residential in nature.

Nature of Request:

The Applicant has submitted a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing.

Site Size: 0.158 acres more, or less

Zone District: C-1 General Commercial.

Proposed Use: Short-term rental within legally nonconforming single-family dwelling.

Existing Use: Legally nonconforming Single-Family Dwelling.

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council –July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado or virtually via GoToMeeting.

Staff Recommendation: Approval with conditions, as listed in the proposed resolution.

APPLICATION PROCESS

The Applicant is requesting approval of a special use permit. A special use permit application is processed under Section 16-7 of the Code.

After required public notice of the special use permit application, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the special use permit. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The City Council shall then conduct a public hearing and evaluate the application, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve, conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Zoning Regulations require published notice of the hearings at least fifteen (15) days prior to the hearings. The Planning Commission and City Council hearings was published in the Fort Lupton Press on June 8, 2022.

Notice of the public hearings were posted at least fifteen (15) days prior to the hearings, as required by the Zoning Regulations.

Notice was mailed to neighbors within one-hundred (100) feet of the Property on June 6, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

The property is zoned C-1 General Commercial. Short term rentals are not a listed use by right in the C-1 General Commercial Zone District. Section 16-7 of the Fort Lupton Municipal Code (The "Code") states that similar or compatible uses may be permitted as special uses, subject to such conditions and limitation as the City may prescribe to ensure that the location and operation of the special uses will comply with the special use criteria. The approved updated Chapter 16 – Fort Lupton Development Code that comes into effect on July 16, 2022 specifically identifies short term rentals as requiring a special use permit in the C-1 zone district.

A special use review requires a public hearing before Planning Commission and City Council. The intent of the special use permit is to provide flexibility, to provide a means for setting performance standards for individual land uses and to help diversify uses within a zoning district.

Section 16-7(d) states that the City shall use the following criteria to evaluate the Applicant's request:

1. The special use shall satisfy all applicable provisions of the Code and shall be consistent with the intent of the Comprehensive Plan.

   Staff Comment: The Applicant has been working with City staff to comply with applicable provisions of the Code, and has submitted all required special use permit application materials as required.

2. The special use shall not substantially alter the character of the district or the neighborhood.

   Staff Comment: The property is zoned as C-1 and is currently being used as single-family residence. The properties to the North, East, and South are all in the C-1 zone district, and the properties to the West are within the R-O zone district. The short-term rental is expected to have minimal impact to these surrounding properties.

3. The special use will result in efficient on- and off-site traffic circulation, and will not have an adverse impact on adjacent uses or present hazardous conditions for pedestrians or vehicles.

   Staff Comment: There should not be any adverse impact for this proposal. There are two parking spaces located on the property as well as street parking if needed.

4. Adequate conditions of approval shall address: traffic; activity levels; light; noise; odor; building type, style and scale; hours of operation; dust; erosion and other performance issues identified through the public hearing process.

   Staff Comment: These items are addressed in the code, as well as addressed as conditions of approval on the proposed resolution.

5. The term of the special use permit and any reporting and inspection requirements as might be reasonably necessary to ensure compliance with conditions of approval may also be specified by the City Council.

   Staff Comment: A special use permit in non-transferable without prior approval by the City. The Planning Department staff will ensure compliance with other conditions of approval, either as listed on the proposed Resolution or as added by City Council.

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The Fort Lupton Comprehensive Plan designates this area for Downtown Mixed-Use land uses. This designation includes properties along Denver Avenue that constitute Fort Lupton's Downtown and city center. Largely defined within the Downtown Subarea Plan, this area is intended for higher density mixed-use development that will establish an urban, pedestrian-oriented district at the heart of the community.

The proposed use substantively conforms to the designated land use type and zoning.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Building Inspector	Finance Director	Public Works Director
GIS Specialist	Police Chief	United Power
Fort Lupton Fire Protection District	City Administrator	Xcel Energy
Comcast	CenturyLink	CDOT
Postmaster	City Attorney	

RECOMMENDATION

Staff recommends conditional approval of 711 Denver Avenue Special Use Permit. Conditions are listed on the proposed Resolution provided to Planning Commission.

For more information on this development, please refer to the Planning Commission packet provided. Additional documents are available for review at the Fort Lupton City Hall.

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: Pamela Miller Chavez

Company: Quicksilver Places, LLC

Phone: 303 726-1555 (text) Email: pdchavez3@msn.com or

Address: 3315 Chapin Pl, Broomfield 80023 pamela.chavez@bvsd.org

Preferred method of contact? Email: ☒ Phone: ☐ Mail: ☐

2) Representative Name: _____

Company: _____

Phone: _____ Email: _____

Address: _____

Preferred method of contact? Email: ☐ Phone: ☐ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Pamela Miller Chavez

Billing Company: –

Phone: 303 726-1555 Email: pamela.chavez@bvsd.org

Address: 3315 Chapin Pl, Broomfield, CO 80023

B. SITE DESCRIPTION

Site Address: 711 Denver Ave

Parcel Number: 147106101010

Existing Zone Classification: ~~residential / commercial~~ C-1 Proposed Zone Classification: C-1

Water Type: city Name: Pamela Chavez

Sewage Type: city District Name or Location Hauled to: –

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☐ PUD Plan (Preliminary & Final)
☐ Preliminary Plat	☒ Special Use Permit	☐ Variance
☐ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☐ Change of Zone	☐ Other: _____
☐ Site Plan	☐ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: airbnb / STR

Please provide a short description of the proposed project in the space provided below:

We would like to list additional space in our large home as an airbnb to help with utilities & prop maintenance etc.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: _____ Date: _____

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: _____ Date: May 1, 2022

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.
2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.
3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

CITY OF
Fort Lupton
EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303-857-6694
Fax: 303.857.0351
www.fortluptonco.gov

APPLICATION FOR SPECIAL USE PERMIT

A pre-application conference and site visit may be required prior to submitting the Special Use Permit Application. The applicant may meet with representatives from the Planning Department to discuss the applicant's intended submittal, the City's application requirements and processes and other information relevant to the proposed application. Please contact the Planning Department at 303-857-6694.

Applicant should provide the following:

1. Plat of area with proposed zoning with vicinity map identifying site and surrounding area. If you are constructing a new building or adding to an existing building as part of this application, you must also submit a plot plan, construction plans, and a drainage plan. Approval of the special use permit will be based upon the drawings submitted unless changes are recommended by the engineer, planning commission, or city council.
2. Information as requested.

The applicant is responsible for the following:

1. Posting a hearing notice on the property 15 days prior to the hearing.

Name of Property Owner(s): Pamela Miller-Chavez Phone: (303) 726-1555
Address: 3315 Chapin Pl Broomfield, Co 80023
Co Applicant (if different from owner): Leslie Atkins
Address: 711 Denver Ave
Home Phone: (720) 600-9904 Cell Phone:
Address or location of Property for which Special Use Permit is being requested:
711 Denver Ave
Legal Description lot 15 and 16 and 3 feet lot 14
Current Zoning: residential and commercial

Reason for Request:
We would like to use 2nd floor bedrooms and unused space as an airbnb. Utility costs to heat and cool the space are high, and using as a bnb will offset this.

Please answer the following questions in detail.

1. What is the proposed use?
   airbnb / short term rental
2. How will the proposed use impact the surrounding properties as it relates to the following areas:

   Noise very little. We will have quiet hours & no parties allowed.

   Dust none

   Odor none

   Safety Safety should remain the same, or increased using a ring camera / doorbell

   Traffic very little change. 1-2 cars typically and we will encourage walkability to Denver - Ave restaurants etc.

   Light no additional lighting. Just porch and deck.
3. What are the proposed hours of operation?
   Check in 4 pm and check out 11 am with 2-3 day minimums.
4. Are you required to obtain any special licenses or permits through any other government agency? If yes, what types of licenses and permits are required?
   No. I have an acct and pay taxes through airbnb
5. If this application is for a daycare, how many children will you be caring for?
   n/a
6. If this application is for an assisted living facility, how many units will you have in the facility?
   n/a
7. How many employees will work at the proposed facility?
   Leslie, and possibly her son, Ethan will work doing housekeeping, and some commissions for bookings.

The applicant hereby certifies that the above information, along with the attached plans and project descriptions, is correct. The applicant agrees to comply with the provisions of the zoning ordinances, building code and all other applicable sections of the City Code, Land Use Code, City Plan and all other laws and ordinances affecting the construction and occupancy of the proposed building.

Signature(s): _____ Date: _____

Pamela Miller Chavez 5/1/2022

711 Denver Ave airbnb/short term rental project description

The airbnb at 711 will consist of the owner, Pamela Miller-Chavez and her Tenant, Leslie Atkins cohosting, as an employee. Leslie will be directly compensated for hospitality, management services, keeping up with landscaping off of Denver Ave, and housekeeping services and linen exchanges between guests.

Details on the business plan: We anticipate renting the home for an average of a week or 2 weekends each month, with less occupancy than this in the spring and fall, but likely greater occupancy in the summer when there are weddings or golf tournaments etc, and around the holidays when there is a greater demand for in town guests and accommodations, with this being the average of higher and lower seasons. Renting out a week per month on average will make this endeavor worthwhile, and offset the other expenses of maintaining a large, over 3000 square foot home. We expect to rent to between 2 to 6 guests at time, and will rent the entire space, possible locking off unused bedrooms allowing it to be available as a one bedroom or a 3 bedroom depending on need. We will only have one booking for the entire party, not per room, not using it as in the past use with boarding house style for multiple interests. Check in will be at 4:00 pm and Check out will be by 10:00 am as our operating hours. A lockbox will be provided for off hours, say a delayed flight and later check in, and Leslie will be on site for a more personalized check in experience. We will have quiet hours 9pm to 7am, and I will list in my house rules "no parties allowed." Because of the nature of the recent past of the home as a party house and with drug use etc, we will allow family reunions, wedding parties or girls night out type of bookings, golf tournaments etc. I am unsure at this time without experience on the demand that there will be or not be, if I will allow instant bookings, or if Leslie and I will only allow pre-approved bookings of guests with ratings and prior reveiws on airbnb etc.

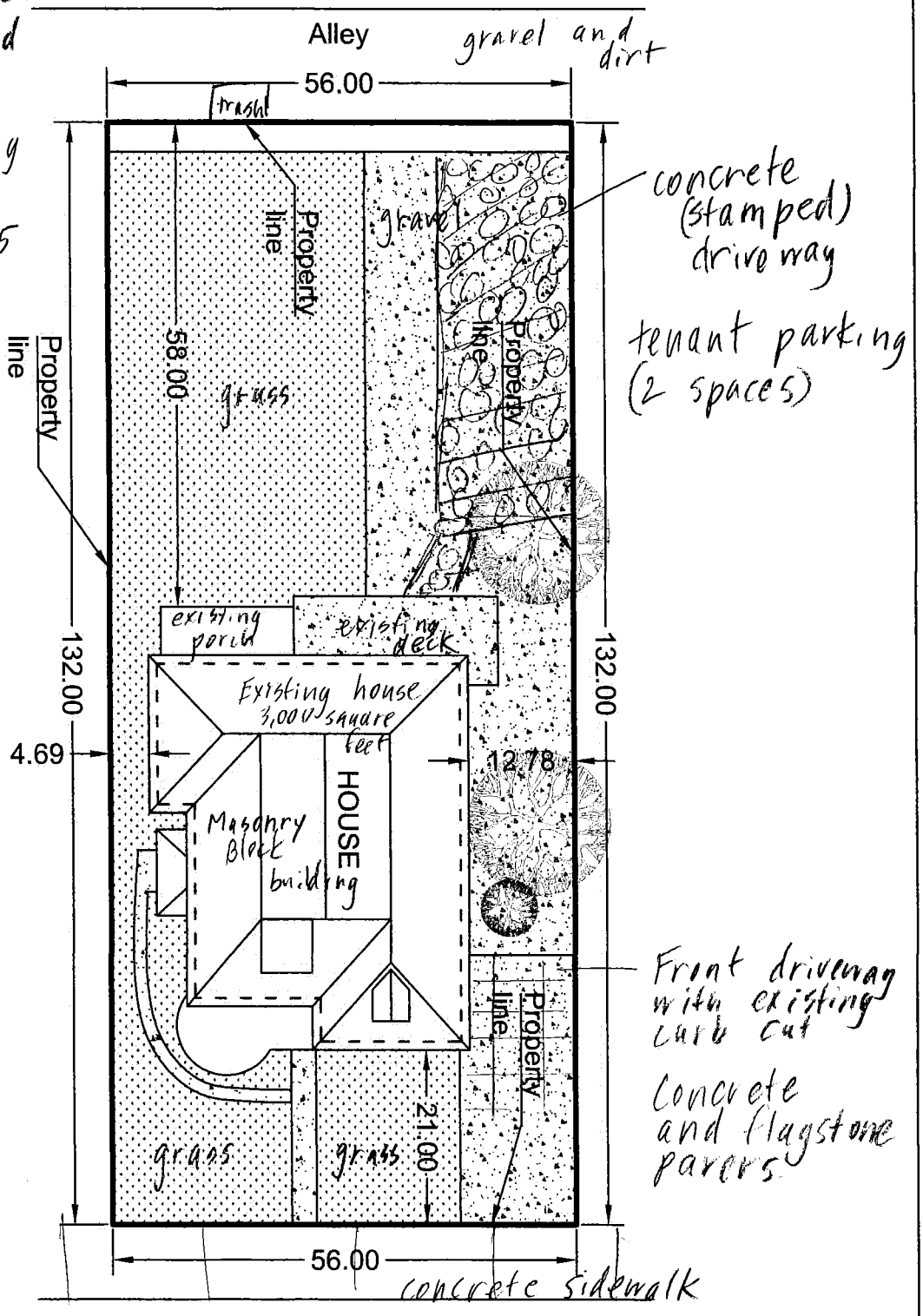
There will be no signage, unless required, and advertising and bookings will be done through airbnb or vrbo online bookings. I have another airbnb in Breckenridge, so experience in this platform. We will not be adding additional structures, and all structures on the site plan are existing, and have been changed very little since 1903.

*parking is anticipated to be 1-2 cars per stay. There will be offstreet parking for 2 cars, as well as the option on Denver Ave.

* phasing n/a

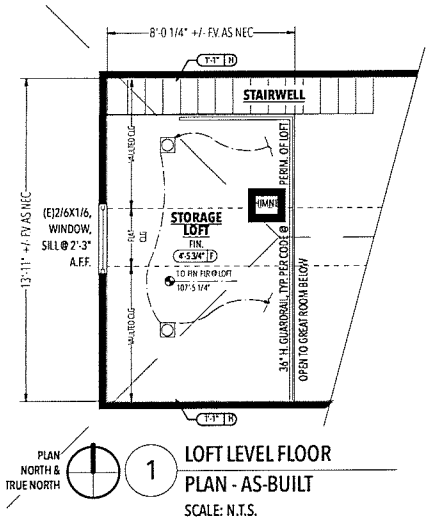
711 Denver Ave
parcel # 147106161010

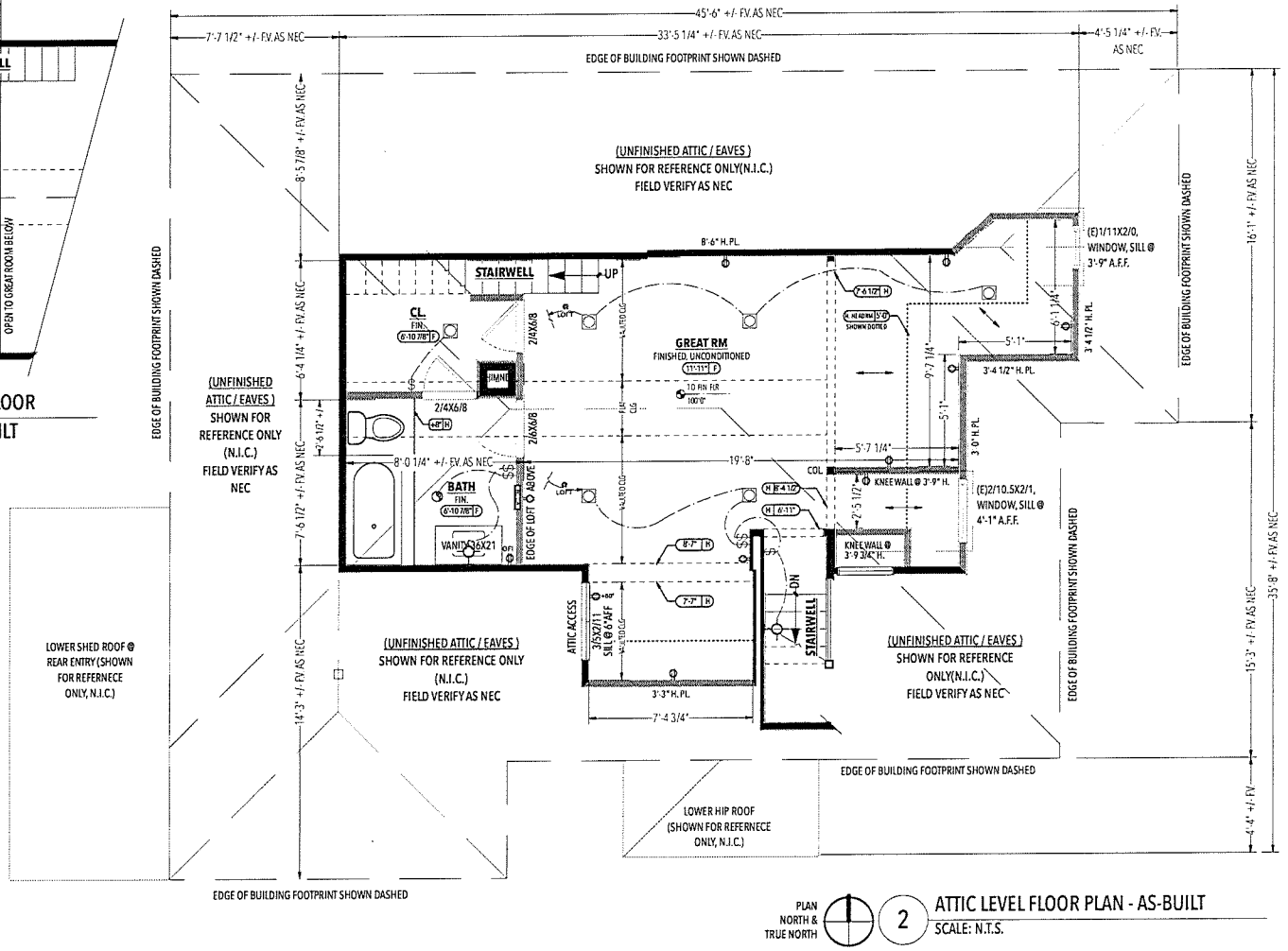
Lots 15 and 16, Block 15
Fort Lupton, and
a strip of land
3 feet wide along
the South side
of lot 14, Block 15



0 4ft 20ft 40ft
GRAPHIC SCALE

Address: 711 N Denver Ave
Fort Lupton, CO 80621
Scale 1"= 20'





(N. DENVER AVENUE)

PROJECT ADDRESS:

711 N. DENVER AVE
FORT LUPTON, CO

ATTIC LEVEL FLOOR PLAN -- AS-BUILT

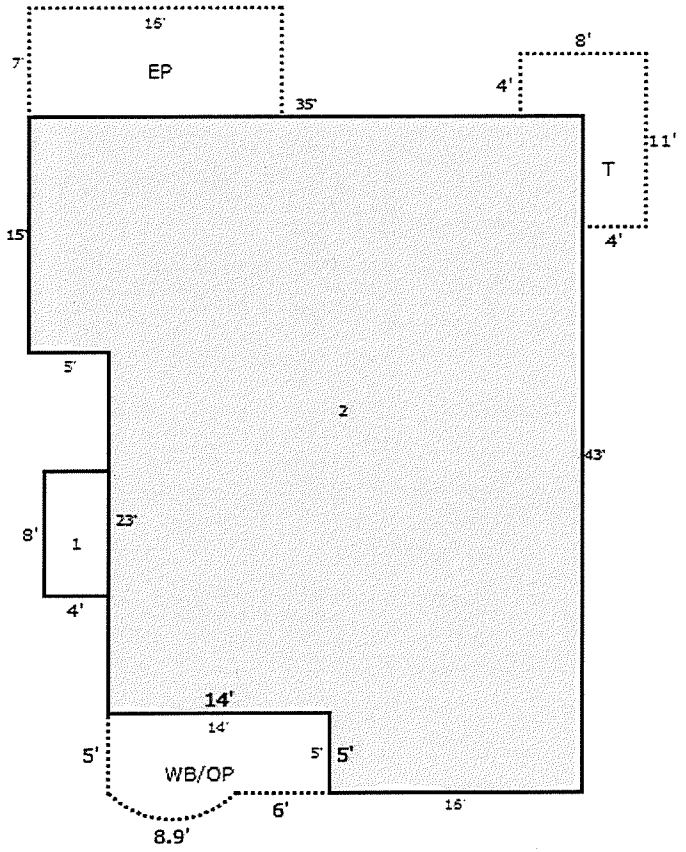
SHEET
1 OF 1

ABBREVIATIONS	
CL	CENTERLINE
CLG.	CEILING
CLR.	CLEAR / CLEARANCE
COL., COL'S	COLUMN / COLUMNS
CONC.	CONCRETE
(E), EXIST.	EXISTING
EQ.	EQUAL
F	FIN. (HEIGHT)
FLR	FLOOR / FLOORING
F.V.	FIELD VERIFY
H / HT	HEIGHT
NEC	NECESSARY
PL	PLATE
R	RIGHT (OR) RISER (STAIRS)
REQ.	REQUEST / REQUIREMENT
SH.	SHELF / SHELVES
TYP.	TYPICAL / STANDARD
U.N.O.	UNLESS NOTED OTHERWISE
WH	WATER HEATER
2/6X6/8	DOOR DIMENSIONS, READ: 2'-6" W. X 6'-8" H.
6'-10 7/8" F	FIN. CLG. HEIGHT
+8" H	HEIGHT A.F.F.

GENERAL CONDITIONS & GENERAL PLAN NOTES

1. DIMENSIONS ARE TO FIN. FACE OF EXIST. DRYWALL OR EXTERIOR WALL, U.N.O. & WHERE STATED.
2. EXISTING PERIMETER WALLS ARE FIELD CONSTRUCTED MASONRY BLOCK, FIELD VERIFY AS NEC & U.N.O.
3. EXISTING FIN. FLOOR SURFACE IS PLY OR EQ. FINISH PER OWNER'S SPECS
4. THESE PLANS DO NOT INCLUDE CEILING FRAMING, SOFFITS, RELOCATION OF EXISTING PLUMBING, ELECTRICAL OR HVAC SYSTEMS & APURTENANCES AND ARE THEREFORE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR &OWNER TO REVIEW & FIELD DESIGN ALL EXISTING ELEMENTS TOWARDS AN AGREEABLE AESTHETIC AND CONCLUSIVE SOLUTION FOR ALL PARTIES INVOLVED.
5. THE CONTRACTOR SHALL COMPLETE ALL WORK IN QUALITY WORKMANSHIP & MATCH, AT MIN., OR IMPROVE UPON EXISTING FINISHES & TO OWNER'S SPECIFICATIONS FOR SCOPE OF WORK HEREIN.
6. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION AND CHECKING OF ALL DIMENSIONS AND CONDITIONS RELATED TO THIS WORK. CONTRACTOR IS TO CONTACT THE DESIGNER IF DISCREPANCIES OR CONFLICTS ARE DISCOVERED.
7. THE CONTRACTOR & SUBCONTRACTORS SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR AND SERVICES NECESSARY TO COMPLETE THE WORK (WHICH MAY NOT BE DETAILED IN THE DRAWINGS BUT ARE OBVIOUSLY REQUIRED) SO AS TO RESULT IN AN OPERATIVE AND OCCUPIABLE AREA MEETING INDUSTRY, CODE & OWNER'S STANDARDS.
8. ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE CURRENT BUILDING, ZONING & LOCAL CODES AND OTHER ADOPTED BUILDING CODES & PER OWNER'S SPECIFICATIONS.
9. VERIFY ALL FIXTURE, RECEPTACLE & SWITCH LOCATIONS W/ OWNER PRIOR TO INSTALL.
10. VERIFY ALL TV, COMPONENT, ELEC, CABLE & MOUNTING APPARATUS W/ OWNER AT EACH TV LOCATION PRIOR TO ROUGH ELEC.
11. SMOKE ALARMS AND CARBON MONOXIDE ALARMS PER CODES (IRC R314 & R315).
12. VERIFY ALL APPLIANCE POWER, VENTING & FUEL REQUIREMENTS & CONNECTIONS PRIOR TO ROUGH ELEC.

SQ. FOOTAGES	
FIN. ATTIC:	480 SF
FIN LOFT:	106 SF
TOTAL FIN:	586 SF
FIN. ATTIC ABOVE 5'-0" H. HEADROOM:	407 SF



Sketch by Apex Sketch

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 06/07/2022
Project name: 711 Denver Ave Special Use Permit
Project address: 711 Denver Ave. Fort Lupton, CO 80621
FLFPD Project # R2022-030
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **711 Denver Ave Special Use Permit for a Airbnb** located at **711 Denver Ave.** Fort Lupton, CO 80621. The referral was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Per the 2018 IFC, the structure at 711 Denver Ave. if used as an Airbnb would be considered to be a Residential Group R-3 occupancy where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I. Further considered as Lodging houses. Owner-occupied lodging houses with five or fewer guestrooms and 10 or fewer total occupants shall be permitted to be constructed in accordance with the International Residential Code. This section allows bed-and-breakfast type hotels that are both owner occupied and have five or fewer rooms to rent to be constructed under the IRC. In addition, there is also a maximum of 10 occupants permitted.

   The definition of "Lodging house" allows the rental of guest rooms to transients, provided that there are one or more occupants who are permanent in nature. Lodging houses with five or fewer guest rooms and 10 or fewer total occupants can be classified as a Group R-3 occupancy.

   Under Section 310.4.2, which requires the owner to be in occupancy, the owner and the owner's family in residence will count toward the total number of occupants.

2. Per the National Fire Protection Association (NFPA) 72. It is required as a minimum that smoke alarms be installed inside every sleeping room in addition to requiring them outside each sleeping area and on every floor of the home.

Should at any time it is determined that the structure at 711 Denver Ave. exceeds the above limitations to be considered a Lodging House (aka, Airbnb), the home will be re-evaluated to determine if a re-classification is needed.

Should there be a need to re-classify the structure to anything other than a single-family residence or a Group R-3 occupancy, the following shall be met.

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The plan review Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 23, 2022 3:30 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: 711 Denver Ave (Miller-Chavez) Special Use Permit; LUP2022-0009

No law enforcement issues.

Remember "Find a Way to Help"

John Fryar, Chief of Police
130 S. McKinley Ave
Fort Lupton, CO 80621

Work (303) 857-4011
Cell (303) 210-0100

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 23, 2022 3:16 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: 711 Denver Ave (Miller-Chavez) Special Use Permit; LUP2022-0009

Good Afternoon

The documentation located at the following link is submitted to you for review and recommendation for a special use permit being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/667.

Any comments you consider relevant to this request would be appreciated. Please reply by **June 13, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 23, 2022 at 6:00 PM; and
- City Council: Tuesday, July 5, 2022 at 7:00 PM

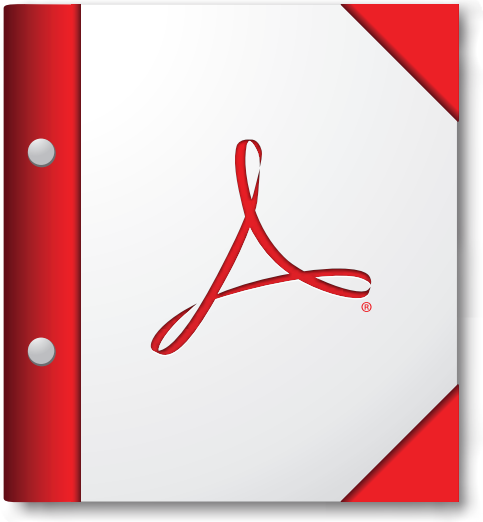
Your time in this matter is greatly appreciated!

WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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Get Adobe Reader Now!

June 13, 2022

City of Fort Lupton
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: LUP2022-0009 – 711 Denver Ave. (Miller/Chevez) Special Use Permit

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Special Use Permit for 711 Denver Ave. Residence. After review of the information, United Power has no concerns or objection to the proposed use of the 2nd floor bedrooms and unused space as an Airbnb, contingent upon United Power's ability to maintain all existing rights, facilities/equipment, and existing easements. This request should not hinder our ability for future expansion, including all present and any future accommodations for electrical distribution.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,

Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 31, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Todd Hodges and Maria Lancto and Magaly Morales-Tejeda

Re: 711 Denver Avenue (Miller-Chavez), Case # LUP2022-0009

Public Service Company of Colorado's Right of Way & Permits Referral Desk has reviewed the special use permit documentation for **711 Denver Avenue** and has **no apparent conflict**.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Colorado Community Media
750 W. Hampden Ave. Suite 225
Englewood, CO 80110

City of Fort Lupton Legals***
130 S McKinley Avenue
Fort Lupton CO 80621

AFFIDAVIT OF PUBLICATION

State of Colorado }
County of Weld } ss

This Affidavit of Publication for the Fort Lupton Press, a weekly newspaper, printed and published for the County of Weld, State of Colorado, hereby certifies that the attached legal notice was published in said newspaper once in each week, for 1 successive week(s), the last of which publication was made 6/9/2022, and that copies of each number of said paper in which said Public Notice was published were delivered by carriers or transmitted by mail to each of the subscribers of said paper, according to their accustomed mode of business in this office.

For the Fort Lupton Press

State of Colorado }
County of Arapahoe } ss

The above Affidavit and Certificate of Publication was subscribed and sworn to before me by the above named Linda Shapley, publisher of said newspaper, who is personally known to me to be the identical person in the above certificate on 6/9/2022. Linda Shapley has verified to me that she has adopted an electronic signature to function as her signature on this document.

20004025550-362694
Carla Bethke
Notary Public
My commission ends April 11, 2026

CARLA BETHKE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20004025550
MY COMMISSION EXPIRES APRIL 11, 2026

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a special use permit referred to as the 711 Denver Ave (Miller-Chavez) Special Use Permit located at 711 Denver Avenue in Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 23, 2022, at 6:00 P.M., and before the City Council on Tuesday, July 5, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND.
LEGAL DESCRIPTION

LOT 15 AND 16, BLOCK 15, FORT LUPTON AND A STRIP OF LAND 3 FEET WIDE ALONG THE SOUTH SIDE OF LOT 14, BLOCK 15, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

Legal Notice No. FLP640
First Publication: June 9, 2022
Last Publication: June 9, 2022
Publisher: Fort Lupton Press

Fort Lupton Press June 9, 2022

Posted Wednesday, June 8, 2022 10:01 pm



Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621

Phone: 303.857.6694
Fax: 303.857.0351

www.fortluptonco.gov

Sign Posting Affidavit
711 Denver Avenue Special Use Permit
Project No. LUP2022-0009;
Plan Nos. SUP2022-0002



Facing: Denver Avenue

I, Pamela Miller Chavez hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 7th day of June, 2022.

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Pamela Miller Chavez this 16 day of June _____, 2022. Witness my hand and seal.

My commission expires May 11 2025

Notary Public

LARYSA FRESQUEZ
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20174020173
MY COMMISSION EXPIRES MAY 11, 2025

(SEAL)

Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 6 day of June, 2022, a true and correct copy of the foregoing Notice of Public Hearings for the 711 Denver Avenue Special Use Permit was sent via United States Mail, postage pre-paid, to the following addresses:

SBM TRAVEL STOP COLORADO LLC 804 DENVER AVE FORT LUPTON, CO 806212164	RHINEHART OIL CO LLC PO BOX 418 AMERICAN FORK,UT 840030416
LAVERY SHANNON MARIE 734 PARK AVE FORT LUPTON, CO 806212145	POWELL SAMUEL R 12512 ARAPAHOE RD LAFAYETTE, CO 800269429
PHILLIPS DARRELL G 301 DIVISION BLVD PLATTEVILLE, CO 806517518	PEN PROPERTIES CO 10857 W VENTURI DR SUN CITY, AZ 853514623
KLOEPFER GEORGE 730 PARK AVE FORT LUPTON, CO 806212145	

City Official

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
www.fortluptonco.gov

Phone: 303.857.6694
Fax: 303.857.0351

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a special use permit referred to as the 711 Denver Ave (Miller-Chavez) Special Use Permit located at 711 Denver Avenue in Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 23, 2022, at 6:00 P.M., and before the City Council on Tuesday, July 5, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: ***711 Denver Ave Special Use Permit***

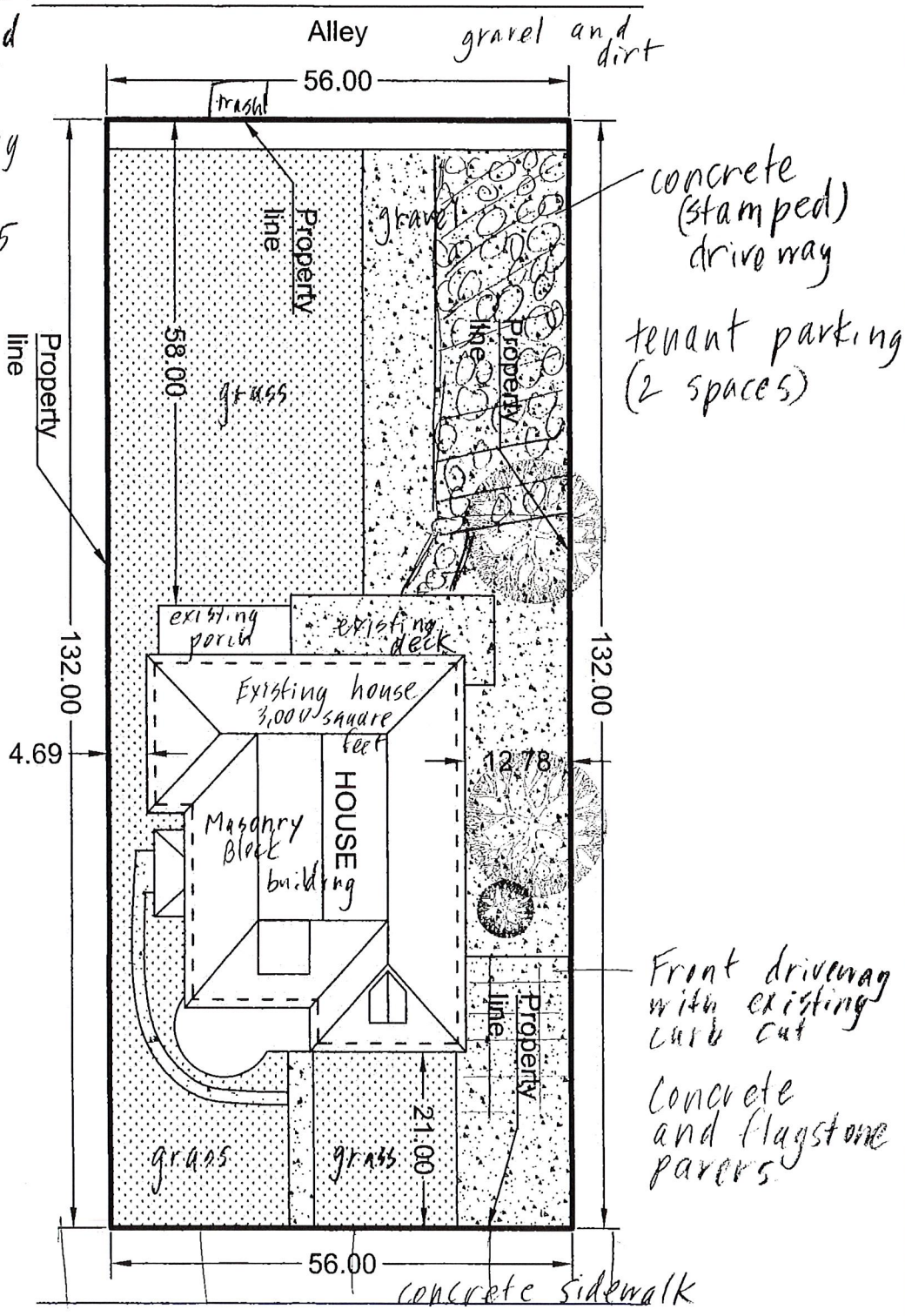
ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

LOT 15 AND 16, BLOCK 15, FORT LUPTON AND A STRIP OF LAND 3 FEET WIDE ALONG THE SOUTH SIDE OF LOT 14, BLOCK 15, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

711 Denver Ave
parcel # 147106161010

Lots 15 and 16, Block 15 Fort Lupton, and a strip of land 3 feet wide along the South side of lot 14, Block 15





Address: 711 N Denver Ave
Fort Lupton, CO 80621
Scale 1"= 20'

City Council Meeting
Date: July 5, 2022
Staff: Planning Department

AM 2022-111
Consent Agenda ☐
Action Memorandum ☒
Public Hearing ☐

SUBJECT FOR DISCUSSION

A Resolution Approving a Preliminary Plat, Known as the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat. A Public Hearing for This Application was Held on June 23, 2022, and The Planning Commission Recommended Approval to City Council of the Preliminary Plat.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

Cottonwood Development Partners, LLC have applied for approval of a Preliminary Plat, known as the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat. A public hearing for this application was held on June 23, 2022, and Planning Commission recommended approval to City Council of the Preliminary Plat. This preliminary plat amendment is required based upon changes to the original preliminary plat approved on December 16, 2019 including the addition of a parcel that was reviewed and approved in an updated sketch plan on January 18, 2022.

The property is located on the north side of 9th street, west of County Road 31, and the west and northern property boundaries are constrained by Fulton Ditch and 14th Street to the north. The property is approximately 156.94 acres with existing PUD zoning. Proposed uses will include 410 single family detached and 137 single-family attached residential units. The development will include a Clubhouse/Neighborhood Park, pocket parks, and interconnecting trails.

FINANCIAL CONSIDERATIONS

All applicable land use application fees have been paid and a fee deposit has been submitted to cover costs related to the application.

LEGAL/POLITICAL CONSIDERATIONS

Notice was mailed to neighbors within 500 feet of the Property on June 8, 2022.

Notice of the public meetings was posted on June 8, 2022, pursuant to the Subdivision Regulations, which require the Applicant post the Property with notice of the hearings at least 15 days prior to meetings.

The Subdivision Regulations require published notice of the meetings in a timely manner prior to the hearings. The Planning Commission and City Council meetings were published in the Fort Lupton Press on June 9, 2022.

ALTERNATIVES/OPTIONS

The City Council has the following options for each request:

a) Approve the proposed resolution.

b) Approve the proposed resolution with conditions.

c) Continue the hearing for additional information or further study.

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

d) Deny the proposed resolution.

STAFF RECOMMENDATIONS

Staff recommends conditional approval of the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat.

Attachments:

a. Proposed Resolution
b. Planning Commission Resolution P2022-016
c. Staff Report
d. Land Use Application
e. Project Narrative
f. Preliminary Plat and PUD Plan
g. Preliminary Landscape Plan
h. Open Space Irrigation Plan
i. Construction Documents
j. Drainage Report
k. Ecological Report
l. Preliminary Geotechnical Report
m. Soils Report
n. Traffic Impact Study
o. Elevations
p. Legal Notifications
q. Referral Responses

RESOLUTION NO. 2022R0xx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE PRELIMINARY PLAT FOR COTTONWOOD GREENS, FILING NOS. 1 – 10, A SINGLE-FAMILY DETACHED RESIDENTIAL SUBDIVISION LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing the Cottonwood Greens Filing Nos. 1 - 10 Preliminary Plat and PUD Plan; and

WHEREAS, the Cottonwood Greens Filing Nos. 1 – 10 Preliminary Plat and PUD Plan proposes to develop a property for a residential subdivision with 410 single-family detached residential lots and 137 single-family attached lots and an open space amenity area; and

WHEREAS, after review of the application for the Cottonwood Greens Filing Nos. 1 – 10 Preliminary Plat and PUD Plan, and consideration of staff comments, applicant's presentation, and any public input, the Planning Commission recommended approval of Cottonwood Greens Filing Nos. 1 – 10 Preliminary Plat and PUD Plan; and

WHEREAS, all legal requirements for the public hearing have been met, including mailing of public hearing notices to adjacent property owners within 500 feet; and

NOW THEREFORE BE IT RESOLVED, that the Fort Lupton City Council reviewed the plans and supporting documentation, all referral comments, and any citizen input in response to this application. Based upon review of the applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Subdivision and Zoning Regulations, an analysis of referral comments, and facts presented on this date, the City Council hereby recommends approval of the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat located in the south half of Section 33, Township 2 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to finalizing the PUD Preliminary Plat:

A. The title of the Preliminary Plat shall include the Project No.: LUP2022-0008 and Plan No.: PPL2022-0002

B. Any redline comments provided by City staff shall be made to the Preliminary Plat and Preliminary PUD Plan.

II. As part of the Final Plat Application:

A. The Applicant shall address the comments from the Fort Lupton Fire Protection District.

B. The Applicant shall provide written acknowledgement of the comments from Xcel Energy.

C. The Applicant shall provide written acknowledgment of the comments form Unite Power.

D. The Applicant shall adequately address the comments from the Public Works Director.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO THIS 5th DAY OF JULY, 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RESOLUTION NO.
P2022016

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF THE COTTONWOOD GREENS PUD FILING NOS. 1 – 10 PRELIMINARY PLAT AND PUD PLAN FOR A RESIDENTIAL SUBDIVISION LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public meeting on June 23, 2022, for the purpose of reviewing the Cottonwood Greens PUD Filing Nos. 1 – 10 Preliminary Plat and PUD Plan; and

WHEREAS, The Cottonwood Greens Filing Nos. 1 – 10 Preliminary Plat and PUD Plan proposes to develop a property for a residential subdivision with 410 single-family detached residential lots and 137 single-family attached residential lots; and

WHEREAS, after review of the application for the Cottonwood Greens PUD Filing Nos. 1 – 10 Preliminary Plat and PUD Plan, and consideration of staff comments, Applicant's presentation, and any public input, Planning Commission finds the request for the Cottonwood Greens PUD Filing Nos. 1 – 10 Preliminary Plat and PUD Plan conforms with City codes, and requirements and policies therein; and

WHEREAS, all legal notification requirements have been met, including publishing the time and place of the public hearings in the Fort Lupton Press, posting notice at least fifteen (15) days before the hearings on the property, mailing notice to property owners within five-hundred
(500) feet of the property and to oil and gas lessees on the property; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has considered the application and has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of the Cottonwood Greens PUD Filing Nos. 1 – 10 Preliminary Plat and PUD Plan located in the South Half of Section 33, Township 2 North, Range 66 West of the 6th Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado, with the following conditions:

I. Prior to finalizing the PUD Preliminary Plat:

A. The title of the Preliminary Plat shall include the Project No.: LUP2022-0008 and Plan No.: PPL2022-0002

B. Any redline comments provided by City staff shall be made to the Preliminary Plat and Preliminary PUD Plan.

II. As part of the Final Plat Application:

A. The Applicant shall address the comments from the Fort Lupton Fire Protection District.

B. The Applicant shall provide written acknowledgement of the comments from Xcel Energy.

C. The Applicant shall provide written acknowledgement of the comments from United Power.

D. The Applicant shall adequately address the comments from the Public Works Director.

DONE THIS 23rd DAY OF JUNE, 2022, BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

ATTEST:

Chairman

Planning Director

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

COTTONWOOD GREENS PUD FILING NOS. 1 – 10 PRELIMINARY PLAT & PUD PLAN
STAFF REPORT
LUP2022-0008 & PLAN NO. PPL2022-0002

PROJECT DESCRIPTION

Project No.: LUP2022-0008 / Plan No.: PPL2022-0002

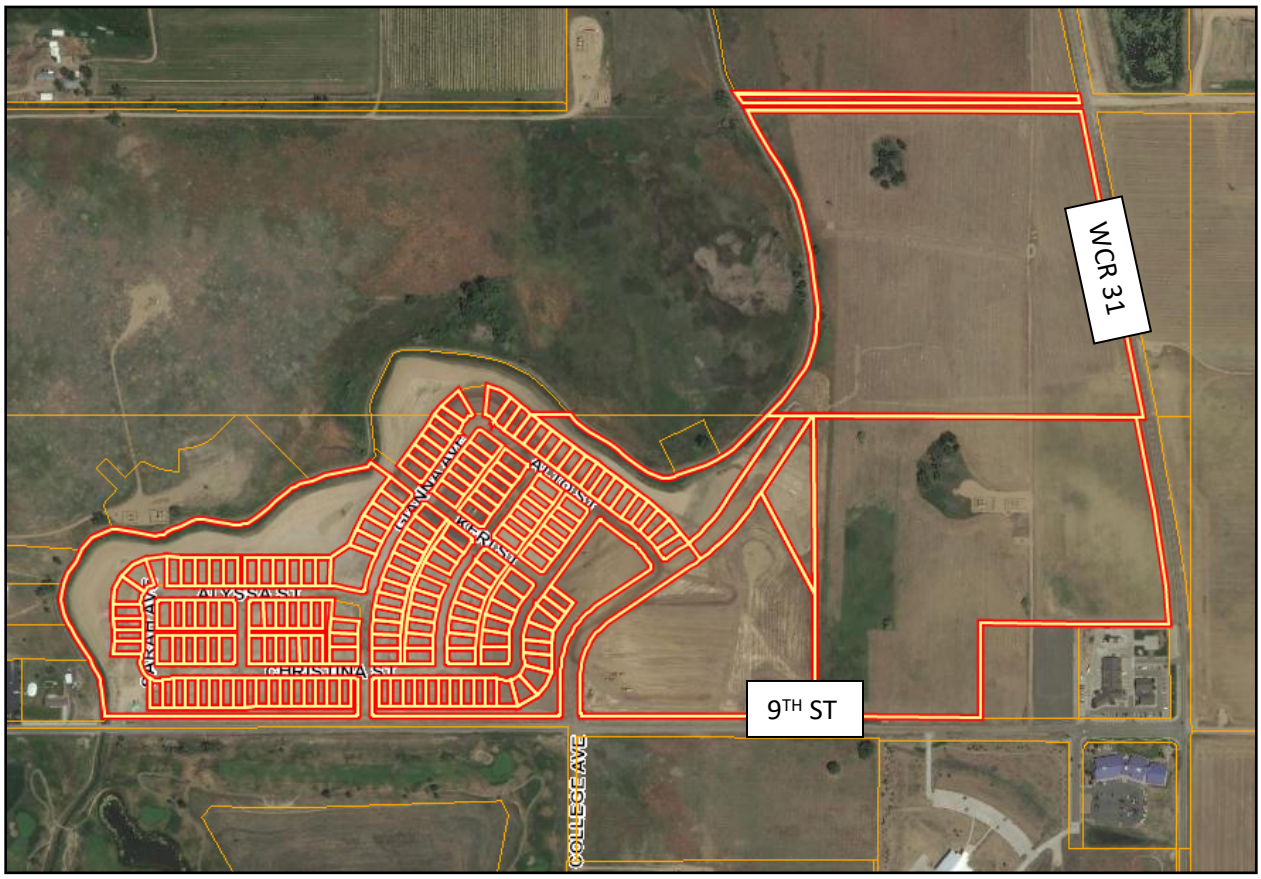
Project Name: Cottonwood Greens PUD Filing Nos. 1 – 10 Preliminary Plat and PUD Plan

Owner's Name: Cottonwood Development Partners, LLC ("Applicant")

Representative's Name: Kristin Turner with TB Group

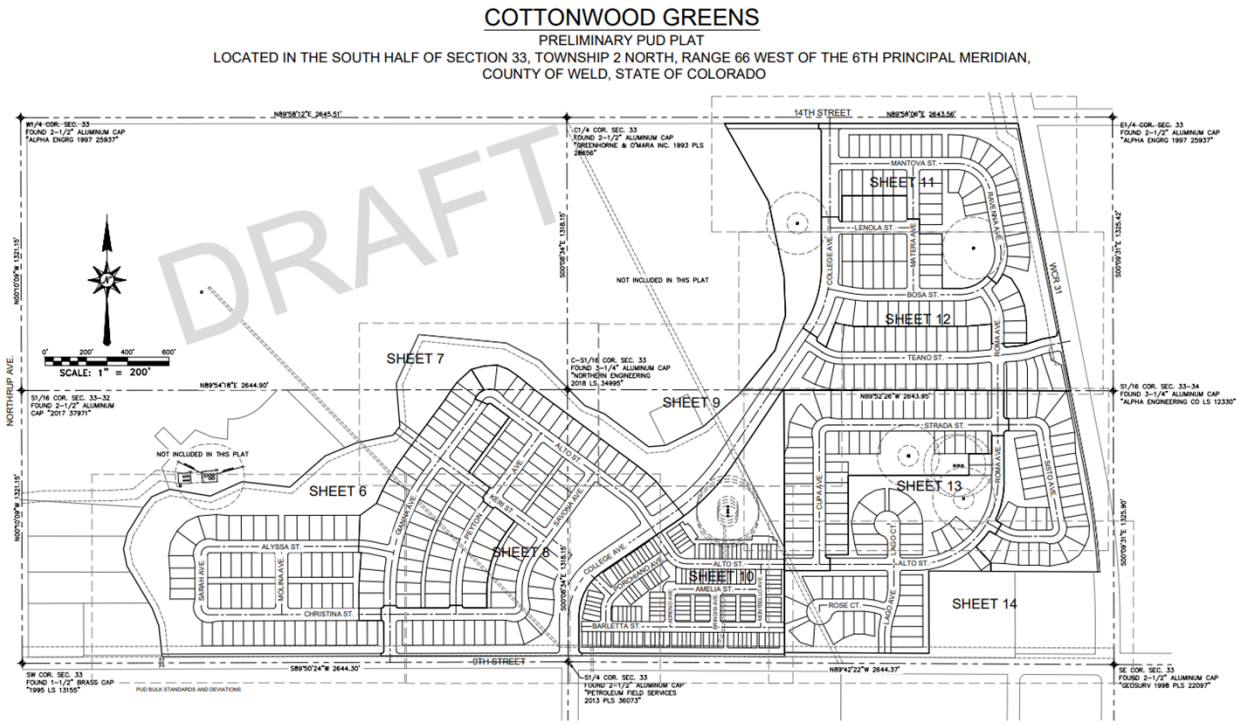
Location of Request:

The site consists of land located north and adjacent to 9th Street and west and adjacent to County Road 31 (the "Property"). The Property is located in the south half of Section 33, Township 2 North, Range 66 West of the 6th Principal Meridian, City of Fort Lupton., County of Weld, State of Colorado.



Nature of Request:

The Applicant has submitted a request for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residential lots and 137 single family attached residential units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This submittal also accounts for the final layout of the approved Filing Nos. 1 – 4. A Final Plat and PUD plan for Filing Nos. 5 - 10 has also been submitted and is being reviewed concurrently.



Site Size: 173.13 acres, more or less.

Zone District: PUD Planned Unit Development.

Proposed Use: A residential subdivision that will provide 410 single-family detached homes and 137 single family attached units.

Existing Use: Vacant/Agricultural

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions, as shown on the proposed resolution.

SUMMARY OF PREVIOUS APPLICATIONS

In 2006, the City Council approved a metropolitan district, final plat, subdivision improvement agreement, and PUD development plan for this property. However, the subdivision was never developed, and the property ownership became fragmented. The metropolitan district remains in effect; however, each separate ownership parcel was required to start the development process over.

On May 6, 2019, the Fort Lupton City Council approved the Cottonwood Greens Sketch PUD Plat (Resolution No. 2019R034), and on December 16, 2019, the PUD Development Plan and Preliminary PUD Plat for the overall Cottonwood Greens Development was approved (Resolution No 2019R090).

On May 19, 2020, City Council approved the Final PUD Development Plan and Final Plats for Filing Nos. 1 – 3 (Resolution No. 2020R048). The Subdivision Improvements Agreement for those filings was approved on June 2, 2020 (Resolution No. 2020R050).

On November 2, 2021, City Council approved the Final Plat and Final PUD Plan for Filing No. 4 (Resolution No. 2021R065), which includes the single-family attached residential (townhome) units.

On January 18, 2022, City Council approved an amended sketch plat and sketch PUD plan (Resolution No. 2022R009).

This application seeks to amend the preliminary plat approved in December 2019, and follows as the next step to the 2022 amended sketch plat.

APPLICATION PROCESS

The Applicant is requesting approval of a Preliminary Plat and PUD Plan. PUD development plan applications are to be processed in the same manner as set forth in the Code for major subdivisions. The Applicant is applying for concurrent approval of the PUD Development Plan, Preliminary Plat and Final Plat, as permitted under Section 17-22(a)(4) of the Subdivision Regulations.

Under the Fort Lupton Municipal Code, after required public notice of the Preliminary Plat and PUD Plan, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the preliminary and final plat. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The Applicant has submitted their preliminary plat and final plat concurrently, as permitted by the Municipal Code. A final plat is not reviewed by Planning Commission under the Municipal Code; however, the final plat map has been included in the Planning Commission packet for reference.

The City Council shall then conduct a public hearing and evaluate the Preliminary Plat and PUD Plan, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve, conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Subdivision Regulations require published notice of the hearings in a timely manner prior to the hearings. The Planning Commission and City Council hearings were published in the Fort Lupton press on June 8, 2022.

Notice of the public hearings were posted on the Property pursuant to the Subdivision Regulations, which require the Applicant post the Property with notice of the hearings at least fifteen (15) days prior to the hearings. The Property was posted on June 8, 2022.

Notice was mailed to neighbors within five-hundred (500) feet of the Property on June, 8, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

Section 16-45 – PUD Planned Unit Development District

a) The Planned Unit Development (PUD) Provisions contained herein are intended to provide for the planning and development of substantial tracts of land, suitable in location and character for the uses proposed, as unified and integrated entities in accordance with detailed development plans.

   The proposed project is for a proposed 173.13 acre subdivision that includes attached and detached single-family residential lots. Staff believes that this residential development meets the intent of the PUD zoning regulations, as detailed in the enclosed submittal materials, as well as below.

   (1) PUD permit requirements. All development within a PUD District must be in accordance with an approved PUD plan. No building or development permits shall be issued within a PUD District unless they are in conformance with an approved PUD plan for that District. Small wind energy systems are permitted uses in PUDs, provided that they meet the qualifications and criteria for a building permit set forth in *Section 18-9* of this Code and are approved as part of the PUD approval process.

   A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet.

   (2) PUD plan format and content, general. In accordance with this Section, PUD plans shall contain unique district regulations that apply to specific parcels of land within a PUD District, including permitted and special uses, lot sizes, bulk, density, general layout, architectural guidelines and location of and standards for public facilities and amenities, and any design standards that vary from the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements. Unless specifically modified by a PUD plan, all provisions of the City's Code and adopted standards and specifications shall apply within PUD Districts. PUD plans shall be in the same general format as required for subdivision plats.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet.

(3) PUD plan process, general. All PUD plan applications shall be submitted and processed simultaneously with the subdivision applications for the property. PUD plan and subdivision applications may also be processed concurrently with the proposed amendment to the Official Zoning Map, creating a PUD District. Except as specifically provided in this Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major subdivisions, including all preapplication conferences, sketch PUD plan, preliminary PUD plan applications, public hearings and recording with the County Clerk and Recorder.

These requirements have been met. The City has a general land use application, which includes the submittal for a PUD plan and subdivision application. An amended PUD sketch - plan was approved by City Council in January 2022. The Applicant submitted a Final Plat for approval by City Council for concurrent review.

(4) Maintenance of private facilities. The owner shall establish an organization for the ownership and maintenance of any approved private streets and/or common open space areas unless other adequate arrangements for the ownership and maintenance thereof are provided in a manner acceptable to the City.

The applicant is working with the City to finalize the Subdivision Improvement Agreement. Private utilities will be maintained by a metro district

(5) PUD size. Unless specifically waived by the City Council, the area included in a PUD plan must be at least ten (10) acres in size.

This development is 173.13 acres, more or less, and therefore meets this requirement.

(6) Approval. Approval of a final PUD plan by the City Council shall be by ordinance.

The Preliminary Plat and PUD plan will be presented before City Council for approval on July 5, 2022. The zoning to PUD was by ordinance.

b) Intent. PUD provisions are intended to further the following objectives:

(1) To permit and encourage innovative design and high quality, master-planned urban developments on large parcels of land.

(2) To permit greater flexibility in the application of zoning and development standards and greater freedom in providing a mix of land uses in the development of a balanced community.

(3) To preserve critical environmental resources, provide above-average open space and recreational amenities, include exceptional design and provide greater efficiency in the layout and provision of roads, utilities and other infrastructure.

(4) To provide flexibility in land planning and development, resulting in amenable relationships between buildings and ancillary uses, and permitting more intensive use of land where well-related open space and recreational facilities are integrated into overall design.

(5) To encourage unity and diversity in land development, resulting in convenient and harmonious groupings of uses, structures and common facilities, varied type design and layout of housing and other buildings and appropriate relationships of open spaces to intended uses and structures.

(6) To encourage unified and planned development of a site, with or without customary subdivision into single lots, and without specific application of the district regulations as provided for individual lots, subject to the regulations set forth herein.

(7) To provide for and encourage the preservation and enhancement of desirable natural landscape and other features unique to a development site.

(8) To provide reasonable standards and criteria by which the specific proposals for a PUD can be evaluated.

(9) To provide a procedure which can relate the design and layout of unified residential, commercial or industrial developments to the particular site and demand for such development in a manner consistent with the preservation of property values within established residential areas.

With respect to Section 16-45(d)(1)-(9) above, staff finds that the proposed PUD Plan and PUD Preliminary Plat substantively meet the intent of this subsection. The development will provide a variety of residential types, thus providing a higher diversity of housing within the City for a variety of demographics. The Cottonwood development has indicated in the Preliminary Plat that that they will include a trail system to connect to the larger trail system of the City's Proposed Trails Map. Staff believes that this residential development meets the intent of the PUD Zone District.

c) General location and planning requirements.

(1) Relation to major transportation system. PUD districts shall be located with respect to major streets and highways or other transportation facilities to be directly accessible without creating traffic on minor streets in residential areas outside such district.

The project will have access off of 9th Street, which will be built out into a collector street, County Road 31, which is planned to be an arterial, and 14th Street, which will also be an arterial according to the City's transportation plan. Staff finds that the proposed development meets this objective.

(2) Relation to public utilities and community facilities. PUD districts shall be located in relation to public utilities and community facilities and services, either existing or to be available by the time development reaches the stage where they will be required, so that such facilities can be provided at reasonable cost and with reasonable efficiency.

Utilities are located near the Property, and the location is able to be served. Additional information on this is included in the submittal documents received from the Applicant. Staff finds that the development meets this objective.

(3) Relation to general pattern of urban development. PUD districts shall be planned and located in general compliance with the Comprehensive Plan and shall relate to the major elements of the urban pattern, including housing, commercial facilities and principal places of employment, by physical proximity of major streets so as to provide for the convenience and amenity of residents of the community and to reduce general traffic congestion by a close relationship between origins and destinations.

The Future Land Use Map designates this area as Single-Family land use. This designation allows for neighborhoods of predominately single-family detached homes and attached townhomes on individual lots. This can consist of a variety of development types, including higher density homes within the City's urban core and planned subdivisions within the residential growth areas. The proposed subdivision complies with this land use designation.

In addition, the project is located near already developed portions of the City, including being directly north of the Coyote Creek Golf Course, Twombley Elementary, and also near other residential within the City. This proximity to current development contributes to the convenience for future residents of the development.

d) Physical character of the site. The site shall be suitable for the development proposed without hazards to structures, occupants or any property from probability of flooding on the site or on adjacent lands, from erosion or deposition of eroded material on adjacent lands, from subsidence of the soils or from other dangerous conditions. Soil, groundwater level, drainage and topography shall be appropriate to both the kind and pattern of use intended.

The project is not located within a floodplain. The Applicant is working with the City Engineer on drainage for the site and a preliminary drainage report was submitted with the submittal materials. Staff finds that the development meets this objective.

e) Site planning; external relationships.

(1) Vehicular access. Entrances and exits for vehicles shall be designed to encourage smooth traffic flow with minimum hazards to passing traffic or to traffic entering or leaving the development. Merging or turnout lanes may be required where anticipated traffic flows from or to the PUD indicate the need for such lanes. In no case shall streets within a PUD district connect to streets outside the district in such a way as to encourage use of any minor streets for through traffic.

A traffic impact study was submitted with the application materials for review by the City Engineer, Fire District, and Planning staff. The City Engineer is working with the application on a subdivision improvements agreement, which will address any infrastructure needed to address traffic impacts. Staff finds that the development meets this objective.

(2) Perimeter setback and screening. If topographical or other barriers do not provide adequate buffer between the PUD and adjacent uses, structures on the perimeter of the PUD shall be set back a distance equal to the minimum setback requirement of the adjoining district, or

shall be permanently screened by fences, walls or plantings as required to sufficiently protect the privacy and amenity of adjacent uses, to protect the planned development from potentially adverse external influences such as a major street or highway and, as necessary, to make transition from adjoining district.

The proposed residential uses are compatible to adjacent uses and staff has determined that no further screening or setbacks are necessary.

f) Modifications of subdivision regulations.

(1) The improvements required under the subdivision regulations, including streets, storm drainage, sanitary sewerage and potable water systems, shall be provided in each PUD.

The Applicant is working with the City Engineer to finalize a subdivision improvements agreement (SIA) prior to construction. This agreement will go before City Council for approval. In addition, the Property is located within a metro district, which will assist with the development of these improvements.

(2) The requirements and standards for the construction of streets and utilities set forth in the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements shall be subject to modification where the plan and program for a PUD make adequate provision for vehicular and pedestrian access and circulation, recreation, utility and service needs of the tract when fully developed and occupied, and also provide such covenants, easements or other legal documents and provisions as will assure conformity to and successful implementation of the plan. Such modifications shall be contained within the PUD plan, subject to approval by the City Council.

The Applicant is working with the City Engineer to finalize these improvements prior to construction.

g) Oil and gas well considerations, restrictions, and setback requirements.

There is a surface use agreement in effect between Cottonwood Development Partners and the owners/operators of the various oil and gas wells that exist on the Cottonwood site. The effective plugging and abandonment of these wells is a condition of approval for the Final PUD and Plat.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Building/Grounds Manager	City Attorney	Police Chief
Public Works Director	Building Inspector	Recreation Manager
Golf Course Manager	OMI	GIS Specialist

Weld County Public Works	Fort Lupton Fire Protection District	CDOT
Weld County School District RE-8	Weld County GIS	NCWCD
Fulton Ditch Company	Weld County Department of Planning	United Power
Comcast	CenturyLink	Xcel Energy
Postmaster		

STAFF RECOMMENDATION

Staff recommendation conditional approval of the Cottonwood Greens PUD Filings Nos. 1 - 10 Preliminary Plat and PUD Plan. Conditions are listed under the proposed Resolution included with the Planning Commission packet.

For more information on this development, please refer to the Planning Commission packet provided. Additional documents may be available for review at the Fort Lupton City Hall.

Form PLAN002

CITY OF Fort Lupton EST 1836

COME PAINT YOUR FUTURE WITH US

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortlupton.org

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: Cottonwood Development Partners LLC.

Company: _____

Phone: (714)404-7867 Email: Jim@rfcomsites.com

Address: 4040 MacArthur Blvd., Ste. 250 Newport Beach, CA 92660

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Kristin Turner

Company: TB Group

Phone: 970.532.5891 Email: kristin@tbgroup.us

Address: 444 Mountain Avenue Berthoud, CO 80513

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Attn: Gloria Morales

Billing Company: Cottonwood Development Partners LLC.

Phone: (949)566-8163 Email: Gloria@rfcomsites.com

Address: 4040 MacArthur Blvd., Ste. 250 Newport Beach, CA 92660

B. SITE DESCRIPTION

Site Address: Vacant Land, County Road 14 Fort Lupton, CO 80621

Parcel Number: 130933416019

Existing Zone Classification: PUD Proposed Zone Classification: PUD

Water Type: Municipal Name: Fort Lupton

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☐ PUD Plan (Preliminary & Final)
☑ Preliminary Plat	☐ Special Use Permit	☐ Variance
☑ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☐ Change of Zone	☐ Other: _____
☐ Site Plan	☐ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Cottonwood Greens

Please provide a short description of the proposed project in the space provided below:

This is a proposal for development of the northwest section of the Cottonwood Greens subdivision as well as the Connor property which is located directly to the south and adjacent to the 4th filing. The site has existing PUD zoning. Single family detached lots are proposed.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: _____ Date: 1/25/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: _____ Date: 1/25/22

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

TB GROUP
landscape architecture | planning | illustration

Cottonwood Greens PUD No. 5- No. 10: Preliminary/Final Plat Narrative
February 4, 2022

General Description/Site Features and Proposed Land Uses

The property is located on the north side of 9th street and west of College Avenue and Cottonwood Greens PUD No. 4. The combined property (filings 5-10) is approximately 75.6 acres with existing PUD zoning. Proposed uses will include 232 single family attached residential units. The overall project density is approximately 3.0 du/ac. The development will include common areas and interconnecting trails.

Compliance with the City of Fort Lupton Comprehensive Plan

The proposed development integrates the goals set out in the Town Comprehensive Plan in the following ways:

Growth and Development

The proposed development is designed to provide connections at pre-determined locations to existing and adjacent neighborhoods. In addition, the layout provides continuous, direct, convenient, and safe pedestrian pathways to adjacent subdivisions and proposed parks. The site is well situated for housing per the Comprehensive Plan. The plan also provides for diversity in housing types for the community.

Transportation and Mobility

This plan provides a safe and efficient transportation network that accommodates pedestrians, vehicles and bicycles. Connections to 9th Street, College Avenue and County Road 31 are planned for these filings. The site is well connected to the previously approved filings with local street connections which will provide easy access for vehicles, bicycles, and pedestrians. The project is planned as a pedestrian oriented and walkable community with sidewalks, street trees and connections throughout the community, to future and existing adjacent neighborhoods.

Parks, Open Space and Environmental Features

The open space and trails within the development will provide high quality recreational opportunities for neighborhood residents and create connections to future and existing neighborhoods and uses beyond our project boundaries. This project will construct the Connector Trail proposed along 9th Street. Trail connections will be provided throughout the site with extensions to all sides of the development tract. A neighborhood park was designed as part of Cottonwood Greens PUD No. 1, to serve the overall development. In addition, a trail head with access to multiple Town trails was designed as part of Cottonwood Greens PUD No. 3 development for the benefit of the entire community. There are no significant environmental features on-site.

Public Facilities and Services

Infrastructure

The proposed development is a logical extension of the City of Fort Lupton public services without placing additional burdens on existing residents and businesses. Infrastructure will be provided so as to meet the requirements of the Comprehensive Plan and/or the Land Use Code.

Water will be provided by the Town of Fort Lupton by connecting to an existing 12" water main in College Ave. and an existing 12" water main in Weld County Road 31. There will also be a network of 8" mains throughout the site. Irrigation flows will be provided by a separate irrigation system.

Sewer will be provided by the Town of Fort Lupton through two connection points: one to the north in 14th St., and one in the center of the site, to the west of College Ave . The existing mains have capacity for the proposed development.

Stormwater will be treated using appropriate water quality measures, with on-site detention being utilized throughout the site to maintain stormwater releases at or below historic rates from the site. The release will be to a single pipe to be constructed through the site to the west adjacent to the existing sanitary sewer. The project area is not located with any FEMA regulated floodplain.

Fire and Police Protection

Law enforcement for the property would be provided by the Fort Lupton Police Department. It is not anticipated that there would be special security needs or a specific need for additional officers.

Fire protection for the property would be provided by Fort Lupton Fire Department. Fort Lupton Fire Station #2 is located at the northwest corner of County Road 31 and 9th Street. It is not anticipated that the project would pose special fire hazards. Fire prevention requirements, fire detection, fire lanes, emergency access, etc. will be provided as required by code.

Schools

The project is within the Weld Re-8 School District. We will work with the District to identify and address any impacts of this project.

Recreation and Open Space

The open space and trails within the development will provide high quality recreational opportunities for neighborhood residents and create connections to future and existing neighborhoods and uses beyond our project boundaries. This project will construct the Connector Trail proposed along 9th Street. Trail connections will be provided throughout the site with extensions to all sides of the development tract. A neighborhood park was designed as part of Cottonwood Greens PUD No. 1, to serve the overall development. In addition, a trail

head with access to multiple Town trails was designed as part of Cottonwood Greens PUD No. 3 development for the benefit of the entire community.

Planned Phasing

Please refer to the phasing designation in the construction documents for specific areas to be included per phase.

Cottonwood Greens Filing No. 5 through Filing No. 10 is located in Fort Lupton, Colorado within the Cottonwood Greens PUD. The Filings have been phased to allow the client to develop the site as the market demands. The client may choose separate home builders and/or may develop concurrently if preferred.

- Filing No. 5 must be constructed first to allow for two points of access to the site, by connecting College Avenue to County Road 31. The sanitary sewer outfalls west of College Ave (constructed with Filing No. 1-3) to an existing sanitary sewer (by others), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- It was assumed that the project would progress to the north so Filing No. 6 is proposed with two street connections to Filing No. 5. The sanitary sewer outfalls to the north within the 14th Street ROW to an existing sanitary sewer (by others), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 7 completes the north portion of the site and is proposed with three street connections to Filing No. 6. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 6), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 8 is proposed in the south with two street connections to Filing No. 4 and Filing No. 5. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 5), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases. Filing No. 8 is independent of Filing No. 6 and Filing No. 7 and thus could be constructed after Filing No. 5, if the client chooses to.
- Filing No. 9 is proposed with a street connection to 9th Street and two internal street connections to Filing No. 8. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 8), storm infrastructure connects to the existing storm sewer (constructed with Filing No. 8), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 10 is proposed with two street connections to Filing No. 9. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 9), no storm infrastructure is proposed, and water and irrigation is proposed within the streets.

Statement of Commercial Mineral Deposits

There are currently oil & gas facilities within the property but there are no known commercial mineral deposits on-site.

Cottonwood Greens PUD No. 5 – No. 10 Metro District Statement

The District will provide and maintain the Public Improvements necessary to serve the project. The District will also provide ongoing services including: covenant enforcement, design review, and parks, open space and common area ownership and maintenance.

Urban Design , Architecture & Elevations

The architecture for filings 5-10 will be consistent and compatible with the existing residential design and include similar architectural features and color schemes. High-quality residences are envisioned for this neighborhood and will be consistent with the development to the west. A mix of elevations will provide an appealing streetscape while detached walks and tree lawns will support a pedestrian friendly community. Conceptual elevations have been provided.

Historical or Archaeological Sites

The Cottonwood Greens property has no known historical significance and/or archaeological sites within the property boundary. There the property is currently a vacant lot with existing oil & gas on-site.

Compatibility With Adjacent Neighborhoods

Residential development is proposed for filings 5-10 which is consistent with the previously approved and/or constructed portion of the subdivision. There is currently PUD zoning which is consistent with the property north, east and west. There is a mix of AG and PUD zoning to the south of the property. A large landscape buffer has been proposed along the property boundary for this community. Landscape will be used to create visual interest and provide screening in any necessary locations. Multiple access points have been provided which could serve as both vehicular and pedestrian connections to adjacent development as well as connections to the existing neighborhood. Multiple regional trails through the property will also serve as an amenity for future adjacent developments.

Description Of Standards For Infrastructure

There are no deviations of design standards proposed for this subdivision related to infrastructure. If it becomes necessary to propose a change to standards at the time of platting, a variance will be requested.

A deviation has been proposed (ref plat) for Section III, H.3.b (3) *Street Tree Planting*, of the residential design standards. The following separations have been proposed.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)

2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE

3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

Conditions of Approval (Sketch Plat and Sketch PUD Plan)

I. Prior to submittal of the Preliminary Plat and Preliminary PUD Plan:

A. Applicant shall submit a pre-application meeting request and meet with City Staff to determine requirements of the submittal. Meeting was held on 1.20.22.

B. Any redline comments provided by City staff shall be made to the Amended Sketch Plat and Plan map. Revisions were submitted on 1.20.22.

II. As part of the Preliminary Plat and Preliminary PUD Plan submittal, the applicant shall include the following:

A. Provide information concerning any existing surface use agreements and provide detail how the agreements have been addressed on the design of the development. The oil & gas is existing, and the required setbacks have been incorporated into the plan. The KP Kaufman well (northwest end of site) has been designed to accommodate the required setbacks. The wells within the Connor and Thermo portions of the site will be plugged and abandoned. An agreement with Kerr McGee and Anadarko has been provided to the City.

B. Provide information concerning any existing metro district and/or homeowners association. See statement below.

C. Provide locations of all active and inactive wells, and evidence that they meet setback requirements of the City. Work with Planning Department staff for any layout changes due to setback requirements. Included on plan sets.

D. Development reports and studies shall be updated to include the Conner parcel. Included.

E. Provide an updated landscape plan for review and approval. Included.

F. The applicant shall provide written evidence that the comments from the Fort Lupton Fire Protection District have been adequately addressed. A draft notice to neighbors has been included for Fire review.

G. The applicant shall provide written evidence that the comments from United Power have been adequately addressed. A response has been included with this submittal.

H. The applicant shall provide written evidence that the comments from Xcel Energy (Public Service Company) has been adequately addressed. A response has been included with this submittal.

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO

DRAFT

LEGAL DESCRIPTION

MULTIPLE PARCELS OF LAND SITUATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33, AS MONUMENTED BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998, PLS 22097", AND CONSIDERING THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 33, AS MONUMENTED ON THE NORTH END BY A 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937" AS BEARING NORTH 00°09'31" WEST WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

THENCE NORTH 00°09'31" WEST ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 33 1506.37 FEET TO THE SOUTH 1/16 CORNER BETWEEN SECTION 33 AND SECTION 34;

THENCE NORTH 89°52'26" WEST ALONG THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33 205.84 FEET TO THE WESTERLY RIGHT OF WAY LINE OF WELD COUNTY ROAD 31 AS CONVEYED TO WELD COUNTY IN THAT WARRANTY DEED RECORDED MAY 23, 1980 AS RECEPTION NO. 1825641 OF THE RECORDS OF WELD COUNTY, AND THE **POINT OF BEGINNING**;

THENCE ALONG SAID WESTERLY RIGHT OF WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°09'18" EAST 399.78 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08";

THENCE DEPARTING SAID WESTERLY RIGHT OF WAY LINE NORTH 89°42'22" WEST 828.45 FEET;

THENCE SOUTH 00°09'31" EAST 418.65 FEET TO THE NORTH RIGHT OF WAY LINE OF 9TH STREET

THENCE ALONG SAID NORTH RIGHT OF WAY LINE THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 455.38 FEET;
2. SOUTH 00°08'34" EAST 7.60 FEET;

THENCE NORTH 89°42'22" WEST ALONG A LINE 30 FEET NORTH FROM AND PARALLEL WITH THE SOUTH LINE OF SAID SOUTHEAST QUARTER 1048.85 FEET TO THE NORTH-SOUTH CENTERLINE OF SAID SECTION 33;

THENCE SOUTH 89°50'24" WEST ALONG A LINE PARALLEL WITH AND 30.00 FEET NORTHERLY OF, AS MEASURED AT A RIGHT ANGLE, TO THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 33 1966.48 FEET TO THE CENTERLINE OF THE FULTON DITCH, BEING COINCIDENTAL WITH THE EASTERLY LINES OF THE EDELEN HEIGHTS MINOR SUBDIVISION NO. 1 RECORDED JUNE 6, 2018 AS RECEPTION NO. 4404851 OF THE RECORDS OF WELD COUNTY:;

THENCE ALONG SAID CENTERLINE THE FOLLOWING SIX (6) COURSES:

1. NORTH 06°12'34" WEST 151.28 FEET;
2. NORTH 20°43'56" WEST 88.12 FEET;
3. NORTH 30°47'46" WEST 240.23 FEET;
4. NORTH 11°35'19" WEST 84.39 FEET;
5. NORTH 13°59'13" EAST 78.29 FEET;
6. NORTH 31°25'15" EAST 147.40 FEET TO THE NORTHEAST CORNER OF SAID EDELEN HEIGHTS MINOR SUBDIVISION NO. 1;

THENCE CONTINUING ALONG SAID CENTERLINE OF FULTON DITCH THE FOLLOWING TEN (10) COURSES:

7. NORTH 38°52'08" EAST 65.88 FEET;
8. NORTH 67°22'47" EAST 93.12 FEET;
9. SOUTH 80°35'03" EAST 199.77 FEET;
10. NORTH 65°44'52" EAST 169.57 FEET;
11. SOUTH 83°34'28" EAST 232.47 FEET;
12. NORTH 48°40'18" EAST 227.84 FEET;
13. NORTH 67°11'05" EAST 165.39 FEET;
14. NORTH 78°11'40" EAST 180.87 FEET;
15. NORTH 37°22'05" EAST 53.66 FEET;
16. NORTH 04°39'12" WEST A DISTANCE OF 176.96 FEET (RECORD DISTANCE = 177.03 FEET) TO THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 33;

THENCE CONTINUING ALONG SAID CENTERLINE OF FULTON DITCH AND THE WESTERLY AND NORTHERLY LINES OF PARCEL B AS DESCRIBED IN THAT DEED RECORDED DECEMBER 13, 1984 AS RECEPTION NO. 1991950 OF THE RECORDS OF WELD COUNTY THE FOLLOWING FIVE (5) COURSES:

17. NORTH 04°39'12" WEST 31.82 FEET (RECORD DISTANCE = 31.82 FEET);
18. NORTH 24°35'11" EAST 259.79 FEET (RECORD DISTANCE = 259.75 FEET);
19. SOUTH 84°27'39" EAST 426.41 FEET (RECORD DISTANCE = 426.35 FEET);
20. SOUTH 62°30'49" EAST 185.28 FEET (RECORD DISTANCE = 185.25 FEET);
21. SOUTH 44°49'06" EAST 187.12 FEET (RECORD DISTANCE = 187.09 FEET) TO THE NORTH-SOUTH CENTERLINE OF SAID SECTION 33;

THENCE CONTINUING ALONG SAID CENTERLINE OF FULTON DITCH THE FOLLOWING SEVEN (7) COURSES:

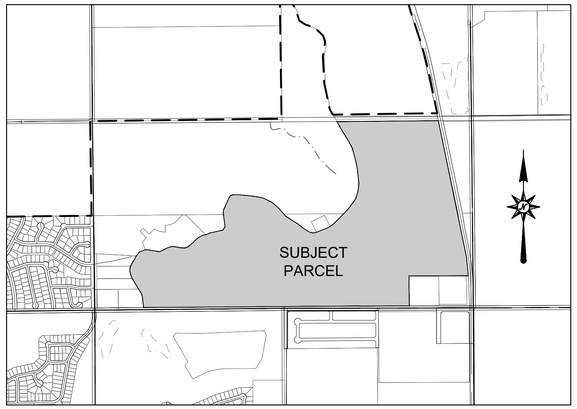
22. SOUTH 44°49'06" EAST 119.68 FEET;
23. SOUTH 67°19'06" EAST 102.80 FEET;
24. SOUTH 53°17'11" EAST 266.98 FEET;
25. NORTH 85°19'19" EAST 82.20 FEET;
26. NORTH 63°33'42" EAST 205.14 FEET;
27. NORTH 47°56'22" EAST 237.78 FEET;
28. NORTH 39°06'23" EAST 22.89 FEET TO THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SECTION 33 AND THE SOUTHWEST CORNER OF PARCEL 1 AS DESCRIBED IN THAT WARRANTY DEED RECORDED APRIL 24, 1989 AS REC. NO. 2177392 OF THE RECORDS OF WELD COUNTY;

THENCE CONTINUING ALONG SAID CENTERLINE OF FULTON DITCH AND THE WESTERLY LINES OF SAID PARCEL 1 THE FOLLOWING FIVE (5) COURSES:

29. NORTH 39°06'23" EAST 246.83 FEET;
30. NORTH 16°42'35" EAST 177.01 FEET;
31. NORTH 02°13'20" WEST 191.53 FEET;
32. NORTH 11°45'35" WEST 367.88 FEET;
33. NORTH 29°31'20" WEST A DISTANCE OF 434.19 FEET TO A LINE PARALLEL WITH AND 30.00 FEET SOUTHERLY OF, AS MEASURED AT A RIGHT ANGLE, TO THE EAST-WEST CENTERLINE OF SAID SECTION 33;

THENCE NORTH 89°58'06" EAST ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 33 1422.77 FEET TO THE WESTERLY RIGHT OF WAY LINE OF WELD COUNTY ROAD 31;

THENCE SOUTH 11°09'18" EAST ALONG THE WESTERLY RIGHT OF WAY LINE OF WELD COUNTY ROAD 31 1319.64 FEET TO THE **POINT OF BEGINNING**.



VICINITY MAP
SCALE: 1"=1000'

0' 1000' 2000' 3000'

SCALE: 1" = 1000'

DEVELOPER/APPLICANT
ARBOR CAPITOL
COTTONWOOD DEVELOPMENT PARTNERS, LLC
JIM RIGHEIMER
4040 MACARTHUR BLVD., #250
NEWPORT BEACH, CA 92660 (303) 905-3496

SITE ENGINEER
ATWELL, LLC
DANIEL MADRUGA, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY NORTHERN ENGINEERING TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. NORTHERN ENGINEERING RELIED UPON FIDELITY NATIONAL TITLE GROUP, TITLE COMMITMENT FILE NO: 100-N0019440-030-TH DATED OCTOBER 2, 2018, TITLE COMMITMENT FILE NO: 100-N0019518-030-TH DATED OCTOBER 11, 2018 AND TITLE COMMITMENT FILE NO: 100-N10019515-030-TH DATED OCTOBER 12, 2018 WERE USED IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 5,272,460 SQUARE FEET, OR 121.04 ACRES, MORE OR LESS.
3. THE LINEAL UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 00° 09' 31" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. UTILITY EASEMENTS ARE DEDICATED TO THE CITY FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

RIGHT TO FARM STATEMENT:

WELD COUNTY IS ONE OF THE MOST PRODUCTIVE AGRICULTURAL COUNTIES IN THE UNITED STATES, TYPICALLY RANKING IN THE TOP TEN COUNTIES IN THE COUNTRY IN TOTAL MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD. THE RURAL AREAS OF WELD COUNTY MAY BE OPEN AND SPACIOUS, BUT THEY ARE INTENSIVELY USED FOR AGRICULTURE.
PERSONS MOVING INTO A RURAL AREA MUST RECOGNIZE AND ACCEPT THERE ARE DRAWBACKS, INCLUDING CONFLICTS WITH LONG-STANDING AGRICULTURAL PRACTICES AND A LOWER LEVEL OF SERVICES THAN IN TOWN. ALONG WITH THE DRAWBACKS COME THE INCENTIVES WHICH ATTRACT URBAN DWELLERS TO RELOCATE TO RURAL AREAS: OPEN VIEWS, SPACIOUSNESS, WILDLIFE, LACK OF CITY NOISE AND CONGESTION, AND THE RURAL ATMOSPHERE AND WAY OF LIFE. WITHOUT NEIGHBORING FARMS, THOSE FEATURES WHICH ATTRACT URBAN DWELLERS TO RURAL WELD COUNTY WOULD QUICKLY BE GONE FOREVER.

AGRICULTURAL USERS OF THE LAND SHOULD NOT BE EXPECTED TO CHANGE THEIR LONG-ESTABLISHED AGRICULTURAL PRACTICES TO ACCOMMODATE THE INTRUSIONS OF URBAN USERS INTO A RURAL AREA. WELL-RUN AGRICULTURAL ACTIVITIES WILL GENERATE OFF-SITE IMPACTS, INCLUDING NOISE FROM TRACTORS AND EQUIPMENT; SLOW-MOVING FARM VEHICLES ON RURAL ROADS; DUST FROM ANIMAL PENS, FIELD WORK, HARVEST AND GRAVEL ROADS; ODOR FROM ANIMAL CONFINEMENT, SILAGE AND MANURE; SMOKE FROM DITCH BURNING; FLIES AND MOSQUITOES; HUNTING AND TRAPPING ACTIVITIES; SHOOTING SPORTS, LEGAL HAZING OF NUISANCE WILDLIFE; AND THE USE OF PESTICIDES AND FERTILIZERS IN THE FIELDS, INCLUDING THE USE OF AERIAL SPRAYING. IT IS COMMON PRACTICE FOR AGRICULTURAL PRODUCERS TO UTILIZE AN ACCUMULATION OF AGRICULTURAL MACHINERY AND SUPPLIES TO ASSIST IN THEIR AGRICULTURAL OPERATIONS. A CONCENTRATION OF MISCELLANEOUS AGRICULTURAL MATERIALS OFTEN PRODUCES A VISUAL DISPARITY BETWEEN RURAL AND URBAN AREAS OF THE COUNTY. SECTION 35-3.5-102, C.R.S., PROVIDES THAT AN AGRICULTURAL OPERATION SHALL NOT BE FOUND TO BE A PUBLIC OR PRIVATE NUISANCE IF THE AGRICULTURAL OPERATION ALLEGED TO BE A NUISANCE EMPLOYS METHODS OR PRACTICES THAT ARE COMMONLY OR REASONABLY ASSOCIATED WITH AGRICULTURAL PRODUCTION.

WATER HAS BEEN, AND CONTINUES TO BE, THE LIFELINE FOR THE AGRICULTURAL COMMUNITY. IT IS UNREALISTIC TO ASSUME THAT DITCHES AND RESERVOIRS MAY SIMPLY BE MOVED "OUT OF THE WAY" OF RESIDENTIAL DEVELOPMENT. WHEN MOVING TO THE COUNTY, PROPERTY OWNERS AND RESIDENTS MUST REALIZE THEY CANNOT TAKE WATER FROM IRRIGATION DITCHES, LAKES OR OTHER STRUCTURES, UNLESS THEY HAVE AN ADJUDICATED RIGHT TO THE WATER.

WELD COUNTY COVERS A LAND AREA OF APPROXIMATELY FOUR THOUSAND (4,000) SQUARE MILES IN SIZE (TWICE THE SIZE OF THE STATE OF DELAWARE) WITH MORE THAN THREE THOUSAND SEVEN HUNDRED (3,700) MILES OF STATE AND COUNTY ROADS OUTSIDE OF MUNICIPALITIES. THE SHEER MAGNITUDE OF THE AREA TO BE SERVED STRETCHES AVAILABLE RESOURCES. LAW ENFORCEMENT IS BASED ON RESPONSES TO COMPLAINTS MORE THAN ON PATROLS OF THE COUNTY, AND THE DISTANCES WHICH MUST BE TRAVELED MAY DELAY ALL EMERGENCY RESPONSES, INCLUDING LAW ENFORCEMENT, AMBULANCE AND FIRE. FIRE PROTECTION IS USUALLY PROVIDED BY VOLUNTEERS WHO MUST LEAVE THEIR JOBS AND FAMILIES TO RESPOND TO EMERGENCIES. COUNTY GRAVEL ROADS, NO MATTER HOW OFTEN THEY ARE BLADED, WILL NOT PROVIDE THE SAME KIND OF SURFACE EXPECTED FROM A PAVED ROAD. SNOW REMOVAL PRIORITIES MEAN THAT ROADS FROM SUBDIVISIONS TO ARTERIALS MAY NOT BE CLEARED FOR SEVERAL DAYS AFTER A MAJOR SNOWSTORM. SERVICES IN RURAL AREAS, IN MANY CASES, WILL NOT BE EQUIVALENT TO MUNICIPAL SERVICES. RURAL DWELLERS MUST, BY NECESSITY, BE MORE SELF-SUFFICIENT THAN URBAN DWELLERS.

PEOPLE ARE EXPOSED TO DIFFERENT HAZARDS IN THE COUNTY THAN IN AN URBAN OR SUBURBAN SETTING. FARM EQUIPMENT AND OIL FIELD EQUIPMENT, PONDS AND IRRIGATION DITCHES, ELECTRICAL POWER FOR PUMPS AND CENTER PIVOT OPERATIONS, HIGH-SPEED TRAFFIC, SAND BURS, PUNCTURE VINES, TERRITORIAL FARM DOGS AND LIVESTOCK AND OPEN BURNING PRESENT REAL THREATS. CONTROLLING CHILDREN'S ACTIVITIES IS IMPORTANT, NOT ONLY FOR THEIR SAFETY, BUT ALSO FOR THE PROTECTION OF THE FARMER'S LIVELIHOOD. (WELD COUNTY CODE ORDINANCE 2002-6; WELD COUNTY CODE ORDINANCE 2008-13)

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 14

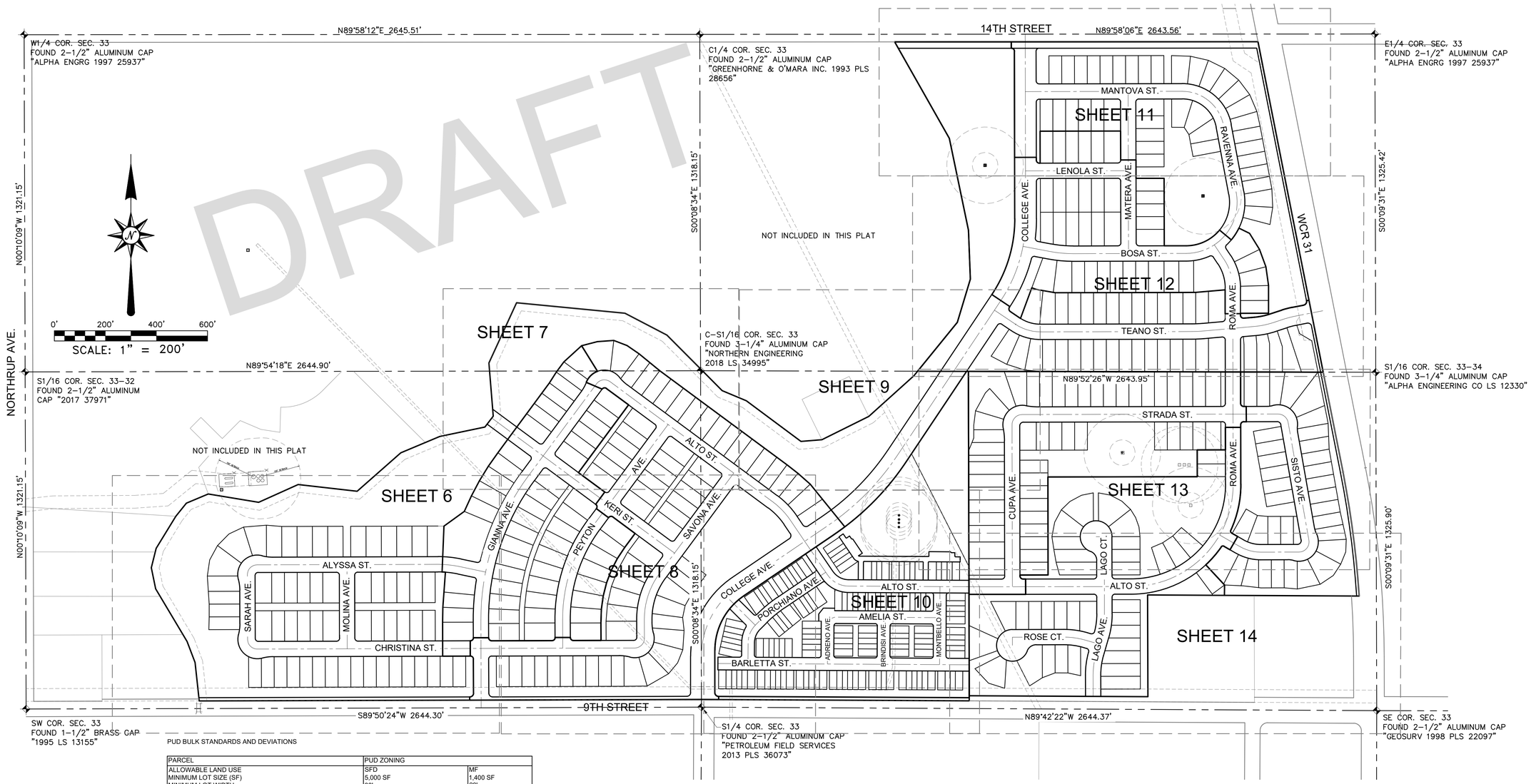
FILE NO. 21002318-PRELIM PLAT
DATE 03/31/2022
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002318

K:\21002318\COWDSurvey\21002318_PRELIMINARY PLAT_2022.dwg, PLAT COVER, 3/6/2022 8:09:43 AM

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



DRAFT

PUD BULK STANDARDS AND DEVIATIONS

PARCEL	PUD ZONING	
ALLOWABLE LAND USE	SFD	MF
MINIMUM LOT SIZE (SF)	5,000 SF	1,400 SF
MINIMUM LOT WIDTH	30'	20'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	15' TO HOUSE
MINIMUM SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	10'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	10'
MINIMUM DWELLING SIZE (SF)	750 SF	500 SF
PRIMARY USES		
HEIGHT	35'	N/A
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	N/A
REAR SETBACK	5'	N/A

NOTES:

A DEVIATION HAS BEEN PROPOSED FOR SECTION III, H.3.B (3) *STREET TREE PLANTING*, OF THE RESIDENTIAL DESIGN STANDARDS. THE FOLLOWING SEPARATIONS HAVE BEEN PROPOSED.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

NO ADDITIONAL DEVIATIONS FROM THE MUNICIPAL CODE ARE PROPOSED.

SECTION CORNER, AS NOTED

SECTION LINE

SHEET MATCH LINE

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LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 14

FILE NO. 21002318-PRELIM PUD
DATE 03/31/2022
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002318

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COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO

LAND USE TABLE

FILING 1

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	153,323	3.52	DRAINAGE, UTILITIES, OPEN SPACE	METRO DISTRICT
B	6,600	0.15	UTILITIES, OPEN SPACE	METRO DISTRICT
C	9,512	0.22	UTILITIES, OPEN SPACE	METRO DISTRICT
D	6,600	0.15	UTILITIES, OPEN SPACE	METRO DISTRICT
E	6,698	0.15	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (61)	425,386	9.76		
RIGHT-OF-WAY	289,733	6.66		
TOTAL	897,852	20.61		

FILING 2

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	13,138	0.30	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,957	0.63	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (52)	369,675	8.49		
RIGHT-OF-WAY	135,238	3.11		
TOTAL	546,008	12.53		

FILING 3

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	413,393	9.49	UTILITIES, OPEN SPACE	METRO DISTRICT
B	9,900	0.23	UTILITIES, OPEN SPACE	METRO DISTRICT
C	18,135	0.42	UTILITIES, OPEN SPACE	METRO DISTRICT
D	876,728	1.99	UTILITIES, DRAINAGE	METRO DISTRICT
E	328,598	7.54	UTILITIES, OPEN SPACE	METRO DISTRICT
F	62,636	1.44	FUTURE RIGHT-OF-WAY	METRO DISTRICT
OUTLOT A	619,698	14.23	FUTURE DEVELOPMENT	METRO DISTRICT
LOTS (59)	390,599	8.97		
RIGHT-OF-WAY	160,223	3.67		
TOTAL	2,089,910	47.98		

FILING 4

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,890	1.01	UTILITIES, DRAINAGE, OPEN SPACE	METRO DISTRICT
B	5,757	0.13	UTILITIES, DRAINAGE, OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
C	110,165	2.53	UTILITIES, OPEN SPACE	METRO DISTRICT
D	86,728	1.99	UTILITIES, DRAINAGE, OPEN SPACE	METRO DISTRICT
E	16,806	0.39	UTILITIES, DRAINAGE, OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
F	720	0.02	OPEN SPACE	METRO DISTRICT
G	18,444	0.42	UTILITIES, DRAINAGE, OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
H	778	0.02	OPEN SPACE	METRO DISTRICT
I	5,042	0.12	OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
J	4,905	0.11	OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
K	4,905	0.11	OPEN SPACE, PRIVATE ACCESS	METRO DISTRICT
L	146,229	3.36	UTILITIES, PRIVATE ACCESS	METRO DISTRICT
M	1,075	0.02	OPEN SPACE	METRO DISTRICT
LOTS (137)	226,734	5.21		
RIGHT-OF-WAY	32,246	0.79		
TOTAL	706,426	16.22		

FILING 5

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	15,261	0.35	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,817	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	264,050	6.06	OPEN SPACE, DETENTION	METRO DISTRICT
D	4,189	0.10	UTILITIES, OPEN SPACE	METRO DISTRICT
E	11,243	0.26	RIGHT-OF-WAY	FORT LUPTON
LOTS (37)	252,517	5.79		
RIGHT OF WAY	129,287	2.97		
TOTAL	667,121	15.31		

FILING 6

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	10,531	0.24	UTILITIES, OPEN SPACE	METRO DISTRICT
B	3,958	0.09	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (39)	276,524	6.34		
RIGHT-OF-WAY	151,601	3.48		
TOTAL	442,010	10.15		

LAND USE TABLE

FILING 7

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,697	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	133,498	3.06	UTILITIES, OPEN SPACE	METRO DISTRICT
C	101,697	2.33	UTILITIES, OPEN SPACE	METRO DISTRICT
D	34,289	0.79	RIGHT-OF-WAY	FORT LUPTON
LOTS (38)	230,880	5.31		
RIGHT-OF-WAY	125,495	2.88		
TOTAL	629,556	14.45		

FILING 8

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,505	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	2,314	0.05	UTILITIES, OPEN SPACE	METRO DISTRICT
C	1,895	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
D	94,609	2.17	UTILITIES, OPEN SPACE	METRO DISTRICT
E	22,042	0.51	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (47)	311,416	7.15		
RIGHT-OF-WAY	116,573	2.68		
TOTAL	552,354	12.68		

FILING 9

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,464	1.00	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,812	0.64	UTILITIES, OPEN SPACE	METRO DISTRICT
C	29,137	0.67	UTILITIES, OPEN SPACE	METRO DISTRICT
D	136,710	3.14	UTILITIES, OPEN SPACE	METRO DISTRICT
E	1,091	0.03	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (36)	245,482	5.69		
RIGHT-OF-WAY	149,796	3.44		
TOTAL	636,491	14.61		

FILING 10

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	42,431	0.97	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,814	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	37,154	0.85	UTILITIES, OPEN SPACE	METRO DISTRICT
D	2,496	0.06	UTILITIES, OPEN SPACE	METRO DISTRICT
E	8,894	0.20	UTILITIES, OPEN SPACE	METRO DISTRICT
LOTS (34)	211,090	4.85		
RIGHT-OF-WAY	60,754	1.39		
TOTAL	374,010	8.59		

COTTONWOOD GREENS PUD FILINGS 1, 2, &3

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L21	S89°50'24"W	18.00'
L22	S89°50'24"W	38.00'
L23	N0°09'36"W	38.00'
L24	N0°09'36"W	42.00'
L25	S0°09'36"E	12.73'
L26	S89°50'24"W	20.00'
L27	S53°31'39"E	20.00'
L28	N36°28'21"E	42.00'
L29	S53°31'39"E	42.00'
L30	N53°31'39"W	20.00'
L31	S53°31'39"E	20.00'
L32	N53°31'39"W	20.00'
L33	S53°31'39"E	20.00'
L34	N36°28'21"E	8.92'
L35	S36°28'21"W	8.36'
L36	N53°31'39"W	19.13'
L37	N34°11'54"W	2.03'
L152	N53°31'39"W	3.47'
L153	N53°31'39"W	20.76'
L154	S4°39'12"E	27.19'
L155	S37°22'05"W	9.52'
L156	S37°22'05"W	30.00'
L160	N47°56'22"E	76.11'
L161	N47°56'22"E	10.36'
L165	N89°50'24"E	121.20'
L166	N89°50'24"E	26.88'
L167	S41°45'44"W	68.99'
L168	S41°45'44"W	58.69'
L169	S0°09'36"E	113.86'
L170	S0°09'36"E	110.85'
L171	S45°00'00"W	14.51'
L172	S45°00'00"W	9.66'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C32	90°00'00"	12.00'	18.85'
C33	14°50'06"	164.00'	42.46'
C34	6°48'39"	164.00'	19.50'
C35	8°01'27"	164.00'	22.97'
C36	90°00'00"	38.00'	59.69'
C37	14°50'06"	164.00'	42.46'
C38	7°26'31"	164.00'	21.30'
C39	7°23'35"	164.00'	21.16'
C40	4°50'09"	268.18'	22.63'
C41	90°00'00"	12.00'	18.85'
C42	90°00'00"	12.00'	18.85'
C43	90°00'00"	12.00'	18.85'
C44	90°00'00"	15.00'	23.56'
C45	90°00'00"	12.00'	18.85'
C46	90°00'00"	12.00'	18.85'
C47	90°00'00"	12.00'	18.85'
C48	90°00'00"	12.00'	18.85'
C49	90°00'00"	12.00'	18.85'
C50	90°00'00"	38.00'	59.69'
C51	19°19'39"	330.00'	111.32'
C52	19°19'45"	270.00'	91.09'
C53	90°00'00"	15.00'	23.56'
C54	2°40'24"	957.50'	44.67'
C55	2°45'57"	1000.00'	48.27'
C56	0°47'37"	330.00'	4.57'
C57	90°00'00"	12.00'	18.85'
C58	2°23'20"	164.00'	6.84'
C59	12°26'47"	164.00'	35.63'
C60	1°30'02"	330.00'	8.64'
C61	14°50'06"	164.00'	42.46'
C80	90°00'00"	12.00'	18.85'
C81	90°00'00"	12.00'	18.85'
C82	90°00'00"	12.00'	18.85'
C83	89°59'58"	12.00'	18.85'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C84	90°00'00"	12.00'	18.85'
C85	90°00'00"	12.00'	18.85'
C86	90°00'00"	12.00'	18.85'
C87	9°38'38"	400.00'	67.33'
C88	87°11'13"	11.98'	18.23'
C89	88°45'48"	11.93'	18.48'
C90	90°00'00"	12.00'	18.85'
C91	90°00'00"	12.00'	18.85'
C92	90°00'00"	12.00'	18.85'
C93	90°00'00"	12.00'	18.85'
C94	9°33'01"	76.00'	12.67'
C95	1°33'16"	164.00'	4.45'
C96	13°16'50"	164.00'	38.01'
C97	14°50'06"	164.00'	42.46'
C129	10°40'13"	76.00'	14.15'
C130	14°50'08"	164.00'	42.46'
C131	8°03'03"	164.00'	23.04'
C135	15°20'57"	76.00'	20.36'

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SHEET 3 OF 14

FILE NO.	21002318-PRELIM PLAT
DATE	03/31/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002318

K:\21002318\PDW\SURVEY\21002324_PRELIMINARY PLAT_2022.dwg, PLAT MAP 3, 3/6/2022 8:10:14 AM

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

COTTONWOOD GREENS PUD FILING NO. 1, 2 & 3

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L21	S89°50'24"W	18.00'
L22	S89°50'24"W	38.00'
L23	N0°09'36"W	38.00'
L24	N0°09'36"W	42.00'
L25	S0°09'36"E	12.73'
L26	S89°50'24"W	20.00'
L27	S53°31'39"E	20.00'
L28	N36°28'21"E	42.00'
L29	S53°31'39"E	42.00'
L30	N53°31'39"W	20.00'
L31	S53°31'39"E	20.00'
L32	N53°31'39"W	20.00'
L33	S53°31'39"E	20.00'
L34	N36°28'21"E	8.92'
L35	S36°28'21"W	8.36'
L36	N53°31'39"W	19.13'
L37	N34°11'54"W	2.03'
L152	N53°31'39"W	3.47'
L153	N53°31'39"W	20.76'
L154	S4°39'12"E	27.19'
L155	S37°22'05"W	9.52'
L156	S37°22'05"W	30.00'
L160	N47°56'22"E	76.11'
L161	N47°56'22"E	10.36'
L165	N89°50'24"E	121.20'
L166	N89°50'24"E	26.88'
L167	S41°45'44"W	68.99'
L168	S41°45'44"W	58.69'
L169	S0°09'36"E	113.86'
L170	S0°09'36"E	110.85'
L171	S45°00'00"W	14.51'
L172	S45°00'00"W	9.66'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C32	90°00'00"	12.00'	18.85'
C33	14°50'06"	164.00'	42.46'
C34	6°48'39"	164.00'	19.50'
C35	8°01'27"	164.00'	22.97'
C36	90°00'00"	38.00'	59.69'
C37	14°50'06"	164.00'	42.46'
C38	7°26'31"	164.00'	21.30'
C39	7°23'35"	164.00'	21.16'
C40	4°50'09"	268.18'	22.63'
C41	90°00'00"	12.00'	18.85'
C42	90°00'00"	12.00'	18.85'
C43	90°00'00"	12.00'	18.85'
C44	90°00'00"	15.00'	23.56'
C45	90°00'00"	12.00'	18.85'
C46	90°00'00"	12.00'	18.85'
C47	90°00'00"	12.00'	18.85'
C48	90°00'00"	12.00'	18.85'
C49	90°00'00"	12.00'	18.85'
C50	90°00'00"	38.00'	59.69'
C51	19°19'39"	330.00'	111.32'
C52	19°19'45"	270.00'	91.09'
C53	90°00'00"	15.00'	23.56'
C54	2°40'24"	957.50'	44.67'
C55	2°45'57"	1000.00'	48.27'
C56	0°47'37"	330.00'	4.57'
C57	90°00'00"	12.00'	18.85'
C58	2°23'20"	164.00'	6.84'
C59	12°26'47"	164.00'	35.63'
C60	1°30'02"	330.00'	8.64'
C61	14°50'06"	164.00'	42.46'
C80	90°00'00"	12.00'	18.85'
C81	90°00'00"	12.00'	18.85'
C82	90°00'00"	12.00'	18.85'
C83	89°59'58"	12.00'	18.85'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C84	90°00'00"	12.00'	18.85'
C85	90°00'00"	12.00'	18.85'
C86	90°00'00"	12.00'	18.85'
C87	9°38'38"	400.00'	67.33'
C88	87°11'13"	11.98'	18.23'
C89	88°45'48"	11.93'	18.48'
C90	90°00'00"	12.00'	18.85'
C91	90°00'00"	12.00'	18.85'
C92	90°00'00"	12.00'	18.85'
C93	90°00'00"	12.00'	18.85'
C94	9°33'01"	76.00'	12.67'
C95	1°33'16"	164.00'	4.45'
C96	13°16'50"	164.00'	38.01'
C97	14°50'06"	164.00'	42.46'
C129	10°40'13"	76.00'	14.15'
C130	14°50'08"	164.00'	42.46'
C131	8°03'03"	164.00'	23.04'
C135	15°20'57"	76.00'	20.36'

COTTONWOOD GREENS PUD FILING NO. 5

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N00°07'09"W	19.01'
L2	S56°15'29"E	10.25'
L3	S84°52'51"W	1.14'
L4	N05°07'09"W	31.06'
L5	N05°07'09"W	33.24'
L6	N12°35'55"W	39.06'
L7	N18°11'49"W	64.35'
L8	S71°48'11"W	7.17'
L9	S71°48'11"W	2.42'
L10	S78°50'42"W	5.25'
L11	S78°50'42"W	40.84'
L12	N18°11'49"W	34.53'
L13	N89°52'26"W	13.66'
L14	N89°52'26"W	10.20'
L15	N89°52'26"W	10.20'
L16	S89°52'51"W	7.66'
L17	S84°52'51"W	23.74'
L18	N89°52'51"E	30.00'
L19	S84°52'51"W	18.21'
L20	N29°31'20"W	28.72'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	1°10'58"	145.00'	2.99'
C2	1°46'55"	470.00'	14.62'
C3	3°13'05"	470.00'	26.40'
C4	85°00'00"	12.00'	17.80'
C5	90°00'00"	12.00'	18.85'
C6	1°32'58"	530.00'	14.33'
C7	3°27'02"	530.00'	31.92'
C8	95°00'00"	12.00'	19.90'
C9	85°00'00"	12.00'	17.80'
C10	90°00'00"	15.00'	23.56'
C11	33°51'40"	145.00'	85.69'
C12	33°51'41"	205.00'	121.15'
C13	5°00'00"	470.00'	41.02'
C14	5°00'00"	530.00'	46.25'
C15	13°04'40"	336.00'	76.69'

COTTONWOOD GREENS PUD FILING NO. 6

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N89°52'51"E	3.53'
L2	N79°15'04"W	10.73'
L3	S0°07'09"E	7.67'
L4	N69°39'15"W	18.25'
L5	S89°52'51"W	3.00'
L6	S89°52'51"W	21.54'
L7	N79°15'04"W	31.86'
L8	N79°15'04"W	20.17'
L9	N79°55'29"W	7.90'
L10	N89°25'40"E	7.81'
L11	N89°52'51"E	15.81'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	12.00'	18.85'
C2	90°00'00"	12.00'	18.85'
C3	90°00'00"	12.00'	18.85'
C4	86°10'28"	12.00'	18.05'
C5	7°02'32"	617.50'	75.90'
C6	90°00'00"	12.00'	18.85'
C7	90°00'00"	12.00'	18.85'
C8	86°10'28"	12.00'	18.05'
C11	80°04'13"	12.00'	16.77'
C12	1°10'11"	470.00'	9.59'
C13	6°45'26"	230.00'	27.13'
C14	1°31'26"	230.00'	6.12'
C16	7°19'40"	230.00'	29.42'
C17	33°34'20"	230.00'	134.77'
C19	10°46'49"	470.00'	88.43'
C21	23°30'47"	230.00'	94.39'
C22	3°28'17"	470.00'	28.48'
C23	0°38'17"	530.49'	5.91'
C24	10°46'49"	530.49'	99.81'
C25	7°16'45"	230.00'	29.22'
C26	79°56'27"	12.00'	16.74'
C27	33°34'20"	170.00'	99.61'

COTTONWOOD GREENS PUD FILING NO. 7

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L3	N89°52'51"E	306.21'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	6°16'43"	195.00'	21.37'
C2	90°00'00"	12.00'	18.85'
C3	90°05'15"	12.00'	18.87'
C4	2°30'24"	230.00'	10.06'
C5	90°00'00"	12.00'	18.85'
C6	5°45'58"	195.00'	19.62'
C7	90°00'00"	12.00'	18.85'
C8	90°00'00"	12.00'	18.85'
C9	90°00'00"	12.00'	18.85'
C10	11°31'31"	230.00'	46.27'
C11	11°23'52"	230.00'	45.75'

COTTONWOOD GREENS PUD FILING NO. 8

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S0°08'34"E	15.02'
L2	N0°08'34"W	25.00'
L3	N89°52'51"E	17.51'
L4	N89°42'22"W	48.07'
L5	S89°52'51"W	44.12'
L8	S0°08'34"E	17.82'
L9	S21°54'31"W	34.71'
L10	S21°54'31"W	19.22'
L11	N0°07'09"W	32.18'
L12	N0°07'09"W	17.82'
L13	S7°04'12"W	57.05'
L14	N44°14'16"E	24.10'
L15	N0°07'09"W	50.00'
L16	N0°07'09"W	3.50'
L17	S89°52'51"W	4.85'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C2	0°24'47"	4970.00'	35.84'
C4	90°00'00"	15.00'	23.56'
C5	90°00'00"	12.00'	18.85'
C6	90°00'00"	12.00'	18.85'
C7	1°06'37"	258.00'	5.00'
C8	0°47'55"	258.00'	3.60'
C9	10°52'36"	258.00'	48.98'
C10	10°52'36"	258.00'	48.98'
C11	90°00'00"	12.00'	18.85'
C12	0°24'47"	5000.00'	36.05'

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L18	N89°52'51"E	5.51'
L19	S0°07'09"E	10.00'

COTTONWOOD GREENS PUD FILING NO. 9

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N73°53'30"W	13.69'
L2	N73°53'30"W	13.60'
L3	S89°52'51"W	13.91'
L4	N0°07'09"W	15.64'
L5	S0°07'09"E	9.65'
L6	S0°07'09"E	5.34'
L7	N0°07'09"W	5.26'
L8	N16°06'30"E	2.54'
L9	S0°17'38"W	4.82'
L10	N0°07'09"W	3.84'
L11	N0°07'09"W	3.48'
L12	N0°07'09"W	6.35'
L13	N32°12'21"W	37.40'
L14	N19°23'50"W	39.34'
L15	N6°28'30"W	38.08'
L17	N44°09'34"W	9.25'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C8	18°33'49"	62.00'	20.09'
C9	16°13'39"	270.00'	76.47'
C10	2°09'45"	270.00'	10.19'
C11	3°18'56"	270.00'	15.62'
C12	2°10'09"	330.00'	12.49'
C13	21°20'53"	62.00'	23.10'
C15	16°13'39"	270.00'	76.47'
C16	16°13'39"	330.00'	93.46'
C18	15°42'19"	62.00'	16.99'
C19	90°00'00"	12.00'	18.85'
C20	90°00'00"	12.00'	18.85'
C21	90°00'00"	12.00'	18.85'
C22	90°00'00"	12.00'	18.85'
C23	89°29'22"	12.00'	18.74'
C24	91°23'15"	12.00'	19.14'
C25	68°53'59"	38.00'	45.70'
C26	15°43'01"	330.00'	90.52'
C27	16°13'39"	330.00'	93.46'
C28	14°50'25"	270.00'	69.93'
C29	68°53'59"	38.00'	45.70'
C30	6°41'21"	270.00'	31.52'
C31	26°15'17"	62.00'	28.41'

COTTONWOOD GREENS PUD FILING NO. 10

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S42°57'02"E	5.02'
L2	N29°48'00"E	30.00'
L3	S60°12'00"E	2.84'
L4	N29°48'00"E	30.00'
L5	S83°30'10"E	8.88'
L6	S89°52'51"W	15.07'
L7	S89°52'51"W	13.77'
L8	N9°59'24"W	6.51'
L9	N89°52'51"E	1.66'
L10	N89°52'26"W	13.66'
L11	N89°52'26"W	10.20'
L12	N89°52'26"W	10.20'
L13	S89°52'51"W	15.03'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	3°08'57"	194.99'	10.72'
C2	7°05'22"	134.59'	16.65'
C3	99°52'15"	15.00'	26.15'
C4	80°07'45"	15.00'	20.98'
C5	16°02'46"	78.00'	21.84'
C6	11°18'17"	76.00'	15.00'
C7	7°14'33"	78.00'	9.86'
C8	8°48'13"	78.00'	11.98'
C9	22°03'43"	76.00'	29.26'
C10	7°21'55"	78.00'	10.03'
C11	8°40'51"	78.00'	11.82'
C12	3°52'00"	78.00'	5.26'
C13	12°10'46"	78.00'	16.58'
C14	16°02'46"	78.00'	21.84'
C15	16°02'46"	78.00'	21.84'
C16	16°02'46"	78.00'	21.84'
C17	29°30'16"	134.59'	69.31'
C18	2°16'51"	194.99'	7.76'
C19	29°34'11"	194.99'	100.63'

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SHEET
4
OF 14

FILE NO.	21002318-PRELIM PUD
DATE	03/31/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002318

E:\21002318\Civil\PUD\Survey\21002318_PRELIMINARY PLAT_2022.dwg, PLAT MAP 4, 5/6/2022 8:10:59 AM

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

COTTONWOOD GREENS PUD FILING NO. 4

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	S55°48'06"W	20.00'
L2	S34°11'54"E	2.00'
L3	N34°11'54"W	18.00'
L4	S55°48'06"W	13.00'
L5	N34°11'54"W	13.46'
L6	S79°11'54"E	4.95'
L7	S55°48'06"W	17.97'
L8	S34°15'05"E	74.00'
L9	N34°11'54"W	9.54'
L11	S00°17'38"W	69.81'
L12	S89°42'22"E	10.00'
L17	S89°42'22"E	20.00'
L18	S89°42'22"E	20.00'
L19	S89°42'22"E	20.00'
L20	S89°42'22"E	22.00'
L21	S89°42'22"E	20.00'
L22	S55°48'06"W	76.00'
L23	S55°48'06"W	76.00'
L24	S55°48'06"W	76.00'
L25	S55°48'06"W	76.00'
L26	S34°11'54"E	20.00'
L27	S34°11'54"E	22.00'
L28	S34°11'54"E	20.00'
L29	S34°11'54"E	20.00'
L30	S34°11'54"E	22.00'
L31	S34°11'54"E	20.00'
L34	N00°17'38"E	16.50'
L35	S44°42'22"E	4.95'
L36	N89°42'22"W	13.46'
L37	N00°17'38"E	13.00'
L38	N89°42'22"W	18.00'
L39	N00°17'38"E	20.00'
L40	S89°42'22"E	20.00'
L41	S89°42'22"E	22.00'
L42	S89°42'22"E	20.00'
L43	S89°42'22"E	2.00'
L44	N00°17'38"E	72.00'
L45	N00°17'38"E	72.00'
L46	N00°17'38"E	72.00'
L47	S00°17'38"W	72.00'
L48	N00°17'38"E	72.00'
L49	S00°17'38"W	72.00'
L50	S00°17'38"W	72.00'
L51	S00°17'38"W	72.00'
L52	S00°17'38"W	72.00'
L53	S00°17'38"W	72.00'
L54	S00°17'38"W	72.00'
L55	S00°17'38"W	72.00'
L56	S00°17'38"W	72.00'
L57	N89°42'22"W	20.00'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L58	N89°42'22"W	22.00'
L59	N89°42'22"W	20.00'
L60	N89°42'22"W	20.00'
L61	N89°42'22"W	20.00'
L62	N89°42'22"W	22.00'
L63	N89°42'22"W	20.00'
L64	N89°42'22"W	10.00'
L65	N89°42'22"W	20.00'
L66	N89°42'22"W	20.00'
L67	N89°42'22"W	20.00'
L70	N55°48'06"E	142.00'
L71	S55°48'06"W	22.00'
L72	S55°48'06"W	20.00'
L73	S55°48'06"W	20.00'
L74	S55°48'06"W	22.00'
L75	S55°48'06"W	22.00'
L76	S55°48'06"W	20.00'
L77	S55°48'06"W	20.00'
L78	S55°48'06"W	22.00'
L79	N34°11'54"W	74.00'
L80	N34°11'54"W	74.00'
L81	N34°11'54"W	74.00'
L82	N34°11'54"W	74.00'
L83	N34°11'54"W	74.00'
L84	N34°11'54"W	74.00'
L85	S55°44'55"W	20.00'
L86	S55°44'55"W	20.00'
L87	S55°48'06"W	6.48'
L88	S34°15'05"E	74.46'
L89	S34°15'05"E	75.68'
L90	S34°15'05"E	77.68'
L91	S44°49'39"W	3.91'
L92	S12°38'05"W	22.00'
L93	S12°38'05"W	20.00'
L94	S12°38'05"W	20.00'
L95	S12°38'05"W	22.00'
L96	N45°10'21"W	12.38'
L97	S89°42'22"E	22.56'
L98	N00°17'38"E	13.78'
L99	N00°17'38"E	22.52'
L100	N00°17'38"E	11.27'
L101	N77°21'55"W	77.82'
L102	N77°21'55"W	75.46'
L103	N77°21'55"W	76.70'
L104	N77°21'55"W	80.74'
L105	N77°21'55"W	85.55'
L106	N77°21'55"W	59.59'
L107	N51°08'04"E	20.00'
L108	N51°08'04"E	20.00'
L109	N55°48'06"E	20.00'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L110	N55°48'06"E	20.00'
L111	S55°48'06"W	20.00'
L112	S55°48'06"W	20.00'
L113	N34°11'54"W	74.00'
L114	N34°11'54"W	74.00'
L115	N34°11'54"W	74.00'
L116	N38°51'56"W	75.74'
L117	N38°51'56"W	76.15'
L118	N38°51'56"W	75.72'
L119	N38°51'56"W	72.61'
L120	N34°11'54"W	74.00'
L121	N89°45'36"W	22.00'
L122	N89°45'36"W	20.00'
L123	N89°45'36"W	20.00'
L124	N89°45'36"W	22.00'
L125	N00°14'24"E	74.00'
L126	N00°14'24"E	73.98'
L127	N00°14'24"E	73.96'
L128	N00°14'24"E	73.94'
L129	N00°14'24"E	73.92'
L130	S89°42'22"E	22.00'
L131	S89°42'22"E	20.00'
L132	S89°42'22"E	20.00'
L133	S89°42'22"E	22.00'
L134	N00°14'24"E	73.41'
L135	S00°17'38"W	22.00'
L136	S00°17'38"W	20.00'
L137	S00°17'38"W	20.00'
L138	S00°17'38"W	22.00'
L139	N00°17'38"E	22.00'
L140	N00°17'38"E	20.00'
L141	N00°17'38"E	20.00'
L142	N00°17'38"E	22.00'
L143	N00°17'38"E	21.00'
L144	N89°42'22"W	74.00'
L145	N89°42'22"W	74.00'
L146	N89°42'22"W	74.00'
L147	N89°42'22"W	74.00'
L148	N89°42'22"W	74.00'
L149	S89°42'22"E	20.00'
L150	S89°42'22"E	22.00'
L151	S89°42'22"E	20.00'
L152	S89°42'22"E	10.85'
L153	S89°42'22"E	20.00'
L154	S89°42'22"E	22.00'
L155	S89°42'22"E	20.00'
L156	S89°42'22"E	15.00'
L157	S89°42'22"E	20.00'
L158	S89°42'22"E	22.00'
L159	S89°42'22"E	20.00'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L160	S89°42'22"E	21.00'
L161	N00°17'38"E	71.70'
L162	N00°17'38"E	71.70'
L163	N00°17'38"E	71.70'
L164	N00°17'38"E	71.70'
L165	S00°17'38"W	71.70'
L166	N00°17'38"E	71.70'
L167	N00°17'38"E	71.70'
L168	N00°17'38"E	71.70'
L169	N00°17'38"E	71.70'
L170	S00°17'38"W	71.70'
L171	N00°17'38"E	71.70'
L172	N00°17'38"E	71.70'
L173	N00°17'38"E	71.70'
L174	N00°17'38"E	71.80'
L175	N00°17'38"E	74.24'
L176	N89°42'22"W	16.94'
L177	N89°42'22"W	20.00'
L178	N89°42'22"W	10.85'
L179	N89°42'22"W	20.00'
L180	N89°42'22"W	22.00'
L181	N89°42'22"W	20.00'
L182	N89°42'22"W	21.00'
L183	N89°42'22"W	20.00'
L184	N89°42'22"W	22.00'
L185	N89°42'22"W	20.00'
L186	N89°42'22"W	15.00'
L187	N00°17'38"E	71.70'
L188	N00°18'25"E	20.00'
L189	N00°18'25"E	22.00'
L190	N00°18'25"E	20.00'
L191	S00°17'38"W	20.00'
L192	S00°17'38"W	22.00'
L193	S00°17'38"W	20.00'
L194	S00°17'38"W	20.98'
L195	S89°41'35"E	74.02'
L196	S89°41'35"E	74.02'
L197	S89°41'35"E	74.01'
L198	S89°41'35"E	74.01'
L199	S89°41'35"E	74.00'
L200	N89°41'35"W	74.06'
L201	S89°41'35"E	74.05'
L202	S89°41'35"E	74.05'
L203	S89°41'35"E	74.04'
L204	S89°41'35"E	74.04'
L205	S00°17'38"W	20.00'
L206	S00°17'38"W	22.00'
L207	S00°17'38"W	20.00'
L208	S00°17'38"W	21.00'
L209	N00°18'25"E	20.00'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L210	N00°18'25"E	22.00'
L211	N00°18'25"E	20.00'
L212	N89°41'35"W	73.95'
L213	N89°41'35"W	74.01'
L214	N89°41'35"W	74.01'
L215	N89°41'35"W	74.01'
L216	N89°41'35"W	74.02'
L217	S89°41'35"E	74.01'
L218	S89°41'35"E	74.01'
L219	S89°41'35"E	74.02'
L220	S89°41'35"E	74.02'
L221	N89°41'35"W	73.98'
L222	N00°18'25"E	20.00'
L223	N00°18'25"E	22.00'
L224	N00°18'25"E	20.00'
L225	S00°18'25"W	20.00'
L226	S00°18'25"W	22.00'
L227	S00°18'25"W	20.00'
L228	N00°17'38"E	20.00'
L229	N00°17'38"E	22.00'
L230	N00°17'38"E	20.00'
L231	S00°17'38"W	20.00'
L232	S00°17'38"W	22.00'
L233	S00°17'38"W	20.00'
L234	S89°41'35"E	73.48'
L235	S89°41'35"E	73.51'
L236	N89°41'35"W	73.98'
L237	S89°41'35"E	74.02'
L238	S89°41'35"E	74.01'
L239	S89°41'35"E	74.01'
L240	S89°41'35"E	74.01'
L241	S89°41'35"E	73.48'
L242	S89°41'35"E	73.51'
L243	N89°41'35"W	74.02'
L244	N89°41'35"W	74.01'
L245	N89°41'35"W	74.01'
L246	N89°41'35"W	74.01'
L247	S00°17'38"W	20.00'
L248	S00°17'38"W	22.00'
L249	S00°17'38"W	20.00'
L250	N00°18'25"E	20.00'
L251	N00°18'25"E	22.00'
L252	N00°18'25"E	20.00'
L253	N00°17'38"E	20.00'
L254	N00°17'38"E	22.00'
L255	N00°17'38"E	20.00'
L256	S00°18'25"W	20.00'
L257	S00°18'25"W	22.00'
L258	S00°18'25"W	20.00'
L259	N89°41'35"W	73.95'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L260	S89°42'22"E	22.00'
L261	S89°42'22"E	20.00'
L262	S89°42'22"E	20.00'
L263	S89°42'22"E	22.00'
L264	S89°42'22"E	22.00'
L265	S89°42'22"E	20.00'
L266	S89°42'22"E	20.00'
L267	S89°42'22"E	22.00'
L268	S00°17'38"W	74.00'
L269	S00°17'38"W	74.00'
L270	S00°17'38"W	74.00'
L271	S00°17'38"W	74.00'
L272	S00°17'38"W	74.00'
L273	S00°17'38"W	74.00'
L274	S89°42'22"E	22.00'
L275	S89°42'22"E	20.00'
L276	S89°42'22"E	20.00'
L277	S89°42'22"E	22.00'
L278	S89°42'22"E	22.00'
L279	S89°42'22"E	20.00'
L280	S89°42'22"E	20.00'
L281	S89°42'22"E	22.00'
L282	S00°17'38"W	74.00'
L283	S00°17'38"W	74.00'
L284	S00°17'38"W	74.00'
L285	S00°17'38"W	74.00'
L286	S00°17'38"W	74.00'
L287	S00°17'38"W	74.00'
L288	S00°17'38"W	74.00'
L289	S89°42'22"E	20.00'
L290	S89°42'22"E	22.00'
L291	S89°42'22"E	20.00'
L292	S89°42'22"E	20.00'
L293	S89°42'22"E	22.00'
L294	S89°42'22"E	20.00'
L295	S00°17'38"W	74.00'
L296	S00°17'38"W	74.00'
L297	S00°17'38"W	74.00'
L298	S00°17'38"W	74.00'
L299	S00°17'38"W	74.00'
L300	N00°17'38"E	74.00'
L301	S00°17'38"W	74.00'
L302	S89°42'22"E	22.00'
L303	S89°42'22"E	20.00'
L304	S89°42'22"E	20.00'
L305	S89°42'22"E	22.00'
L306	S89°42'22"E	22.00'
L307	S89°42'22"E	20.00'
L308	S89°42'22"E	20.00'
L309	S89°42'22"E	22.00'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L310	S00°17'38"W	74.00'
L311	S00°17'38"W	74.00'
L312	S00°17'38"W	74.00'
L313	S00°17'38"W	74.00'
L314	S00°17'38"W	74.00'
L315	S00°17'38"W	74.00'
L316	N00°17'38"E	74.00'
L317	S89°42'22"E	20.00'
L318	S89°42'22"E	20.00'
L319	S89°42'22"E	20.00'
L320	S89°42'22"E	20.00'
L321	N00°17'38"E	74.00'
L322	N00°17'38"E	74.00'
L323	N00°17'38"E	74.00'
L324	N00°17'38"E	74.00'
L325	S00°17'38"W	74.02'
L326	S89°42'22"E	22.00'
L327	S89°42'22"E	20.00'
L328	S89°42'22"E	20.00'
L329	S89°42'22"E	22.00'
L330	S89°42'22"E	22.00'
L331	S89°42'22"E	20.00'
L332	S89°42'22"E	20.00'
L333	S89°42'22"E	22.00'
L334	S00°17'38"W	74.02'
L335	S00°17'38"W	74.02'
L336	S00°17'38"W	74.02'
L337	S00°17'38"W	74.02'
L338	S00°17'38"W	74.02'
L339	S00°17'38"W	74.02'
L340	N00°17'38"E	74.02'
L341	S89°42'22"E	20.00'
L342	S89°42'22"E	20.00'
L343	S89°42'22"E	20.00'
L344	S89°42'22"E	20.00'
L345	N00°17'38"E	74.02'
L346	N00°17'38"E	74.02'
L347	N00°17'38"E	74.02'
L348	S55°48'06"W	293.27'
L349	N34°11'54"W	12.68'
L350	S55°48'06"W	10.01'
L351	N44°49'39"E	36.68'
L352	S89°42'22"E	2.91'
L353	N00°17'38"E	50.00'
L354	S55°44'55"W	112.00'
L355	S55°48'06"W	19.97'
L356	S55°48'06"W	14.70'
L357	S44°49'39"W	36.68'
L358	S00°17'38"W	47.57'
L359	S00°17'38"W	47.57'

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L360	N89°42'22"W	9.91'
L361	N00°17'38"E	28.00'
L362	N38°20'28"E	29.21'
L363	S89°42'22"E	44.19'
L364	S00°17'38"W	9.91'
L365	N00°17'38"E	13.80'
L366	S89°42'22"E	14.74'
L367	S89°42'22"E	16.69'
L368	S89°42'22"E	10.00'
L369	S89°42'22"E	20.00'
L370	S89°42'22"E	12.03'
L371	S89°42'22"E	10.00'
L372	S89°42'22"E	10.00'
L373	S89°42'22"E	10.00'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	3.00'	4.71'
C2	114°13'00"	0.50'	1.00'
C3	31°17'27"	6.50'	3.55'
C4	42°09'19"	27.00'	19.87'
C5	29°11'23"	3.00'	1.53'
C6	47°27'28"	3.00'	2.48'
C8	90°00'00"	3.00'	4.71'
C12	90°00'00"	2.50'	3.93'
C13	90°00'00"	3.00'	4.71'
C14	90°00'00"	3.00'	4.71'
C15	90°00'00"	3.00'	4.71'
C16	2°27'32"	525.00'	22.53'
C17	2°11'13"	525.00'	20.04'
C18	2°11'37"	525.00'	20.10'
C19	4°08'06"	525.00'	37.89'
C20	11°05'16"	9.00'	1.74'
C21	90°00'00"	9.00'	14.14'
C22	74°45'28"	9.00'	11.74'
C23	5°45'03"	125.00'	12.55'
C24	10°09'19"	125.00'	22.16'
C25	9°11'41"	125.00'	20.06'
C26	4°11'26"	125.00'	9.14'
C27	2°16'43"	475.00'	18.89'
C28	2°24'47"	475.00'	20.01'
C29	2°24'47"	475.00'	20.01'
C30	3°30'29"	475.00'	29.08'
C31	18°57'40"	9.00'	2.98'
C32	90°00'00"	9.00'	14.14'
C33	14°03'37"	125.00'	30.67'
C34	9°14'42"	125.00'	20.17'
C35	2°19'17"	125.00'	5.06'
C36	90°00'00"	9.00'	14.14'
C37	90°00'00"	9.00'	14.14'
C38	90°00'00"	9.00'	14.14'
C39	90°00'00"	9.00'	14.14'
C40	70°28'33"	9.00'	11.07'
C41	70°31'19"	9.00'	11.08'
C42	84°10'42"	9.00'	13.22'
C43	84°13'24"	9.00'	13.23'
C44	5°49'18"	9.00'	0.91'
C45	5°46'36"	9.00'	0.91'
C46	19°31'27"	9.00'	3.07'
C47	19°28'41"	9.00'	3.06'
C48	84°16'48"	9.00'	13.24'
C49	5°43'12"	9.00'	0.90'
C50	84°10'42"	9.00'	13.22'
C51	5°49'18"	9.00'	0.91'
C52	70°31'19"	9.00'	11.08'
C53	19°28'41"	9.00'	3.06'
C54	19°35'03"	9.00'	3.08'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C55	70°24'57"	9.00'	11.06'
C56	5°24'10"	257.50'	24.28'
C57	5°34'17"	257.50'	25.04'
C58	5°34'17"	257.50'	25.04'
C59	39°15'29"	257.50'	176.43'
C60	90°00'00"	9.00'	14.14'
C61	80°50'39"	9.00'	12.70'
C62	78°54'44"	9.00'	12.40'
C63	0°42'14"	100.00'	1.23'
C64	44°32'00"	75.00'	58.29'
C65	29°17'29"	125.00'	63.90'
C66	71°02'20"	9.00'	11.16'
C67	90°00'00"	9.00'	14.14'

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REVISIONS

SHEET 5 OF 14

FILE NO. 21002318-PRELIM PLAT
DATE 03/31/2022
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002318

K:\21002318\COMDSurvey\21002318_PRELIMINARY PLAT_2022.dwg, PLAT MAP 5, 5/6/2022 8:11:31 AM

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

DRAFT

SCALE: 1" = 50'

RENNOC CORP.

MATCH LINE-SEE SHEET 7

WETLAND SETBACK

LOT 3 EDELEN HEIGHTS MINOR NO. 1

LOT 2 EDELEN HEIGHTS MINOR NO. 1

LOT 1 EDELEN HEIGHTS MINOR NO. 1

TRACT A
413,393 S.F.
(9.49 AC.)

TRACT B
27,957 S.F.
(0.63 AC.)

TRACT B
9,900 S.F.
(0.23 AC.)

TRACT C
18,135 S.F.
(0.42 AC.)

ALYSSA STREET

SARAH AVE.

GIANNA AVE.

MOLINA AVE.

CHRISTINA STREET

COTTONWOOD GREENS PUD FILING NO. 3

COTTONWOOD GREENS PUD FILING NO. 1

MATCH LINE-SEE SHEET 8

30' EASEMENT TO THE RANCH ESTATES REC. NO. 1991950

50' PANHANDLE EASTERN PIPELINE COMPANY EASEMENT REC. NO. 1649767

12.5' R.O.W. DEDICATED BY THIS PLAT

SW COR. SEC. 33
FOUND 1-1/2" BRASS CAP
"1995 LS 13155

9TH STREET
S. LINE SW 1/4 SEC. 33
N89°50'24"W 2644.37'

5TH STREET

LEGEND

- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY
SECTION LINE
MATCH LINE
UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE

LOT LINE
R.O.W. CENTER LINE
R.O.W. LINE
WETLAND SETBACK LINE
WETLAND LINE

PROPOSED STORM SEWER
PROPOSED WATER LINE
PROPOSED IRRIGATION LINE
PROPOSED SANITARY SEWER

EXISTING UTILITIES

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REVISIONS

SHEET 6 OF 14

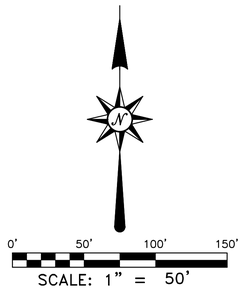
FILE NO.	21002318-PRELIM PLAT
DATE	03/31/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002318

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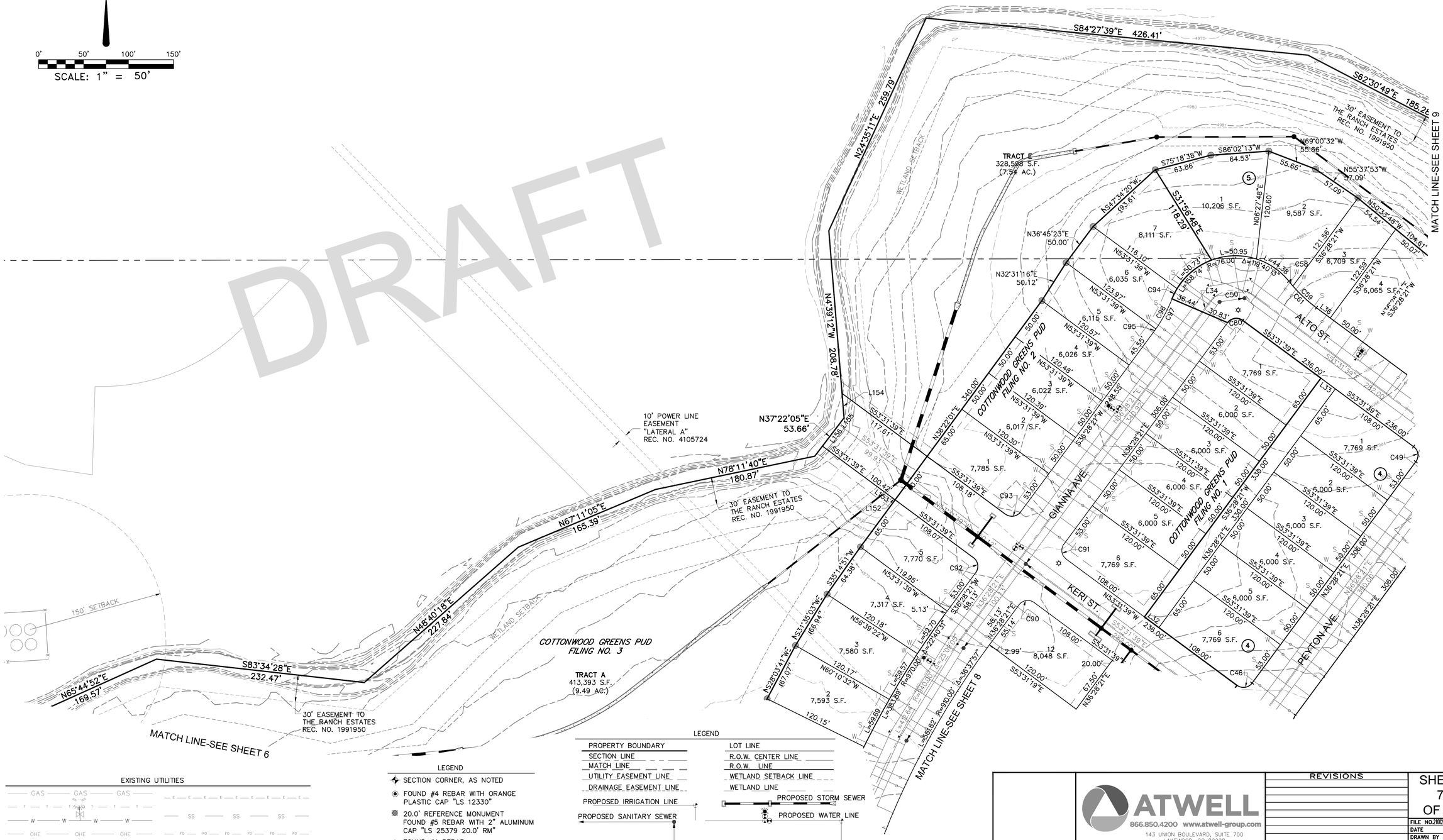
COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



DRAFT



EXISTING UTILITIES

GAS GAS GAS

W W W W

SS SS SS

OHE OHE OHE

FO FO FO FO FO FO

LEGEND

- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

LEGEND

PROPERTY BOUNDARY	LOT LINE
SECTION LINE	R.O.W. CENTER LINE
MATCH LINE	R.O.W. LINE
UTILITY EASEMENT LINE	WETLAND SETBACK LINE
DRAINAGE EASEMENT LINE	WETLAND LINE
PROPOSED IRRIGATION LINE	PROPOSED STORM SEWER
PROPOSED SANITARY SEWER	PROPOSED WATER LINE

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REVISIONS

SHEET 7 OF 14

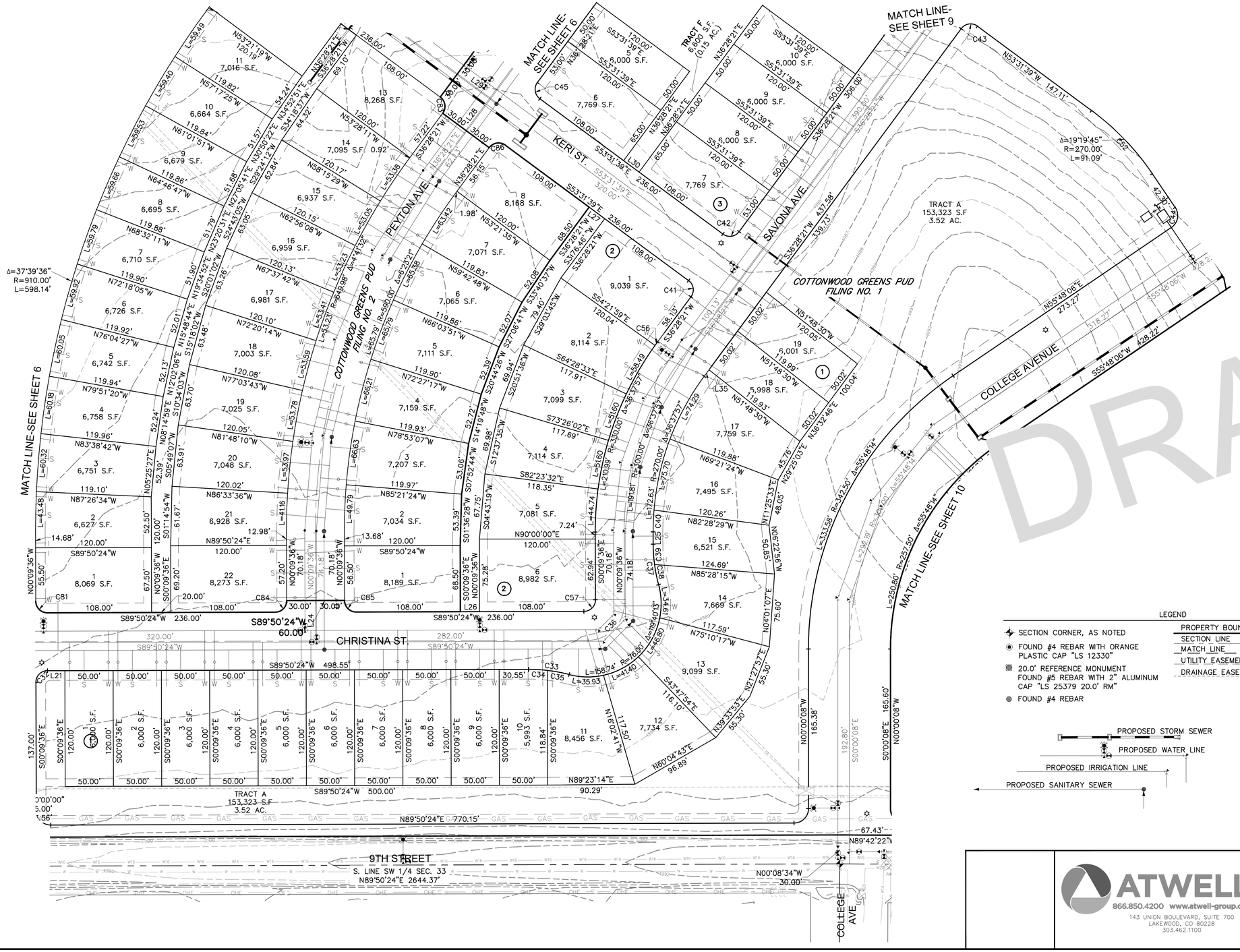
FILE NO.	21002318-PRELM PLAT
DATE	03/31/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002318

K:\1900\325\4DWG\Survey\1900325_PRELIMINARY PLAT_2022.dwg, PLAT MAP 7, 3/6/2022 8:11:09 AM

COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



DRAFT

0' 50' 100' 150'

SCALE: 1" = 50'

LEGEND

- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY
SECTION LINE
MATCH LINE
UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE

LOT LINE
R.O.W. CENTER LINE
R.O.W. LINE
WETLAND SETBACK LINE
WETLAND LINE

EXISTING UTILITIES

PROPOSED STORM SEWER
PROPOSED WATER LINE
PROPOSED IRRIGATION LINE
PROPOSED SANITARY SEWER

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REVISIONS

SHEET 8 OF 14

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JOB NO.	21002318

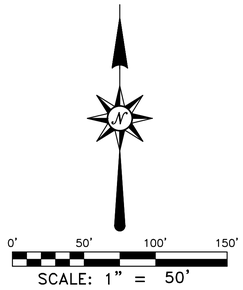
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COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

DRAFT



LEGEND

- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY
SECTION LINE
MATCH LINE
UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE

LOT LINE
R.O.W. CENTER LINE
R.O.W. LINE
WETLAND SETBACK LINE
WETLAND LINE

PROPOSED STORM SEWER
PROPOSED WATER LINE
PROPOSED IRRIGATION LINE
PROPOSED SANITARY SEWER

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REVISIONS

SHEET 9 OF 14

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DATE 03/31/2022
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CHECK BY MLP
JOB NO. 21002318

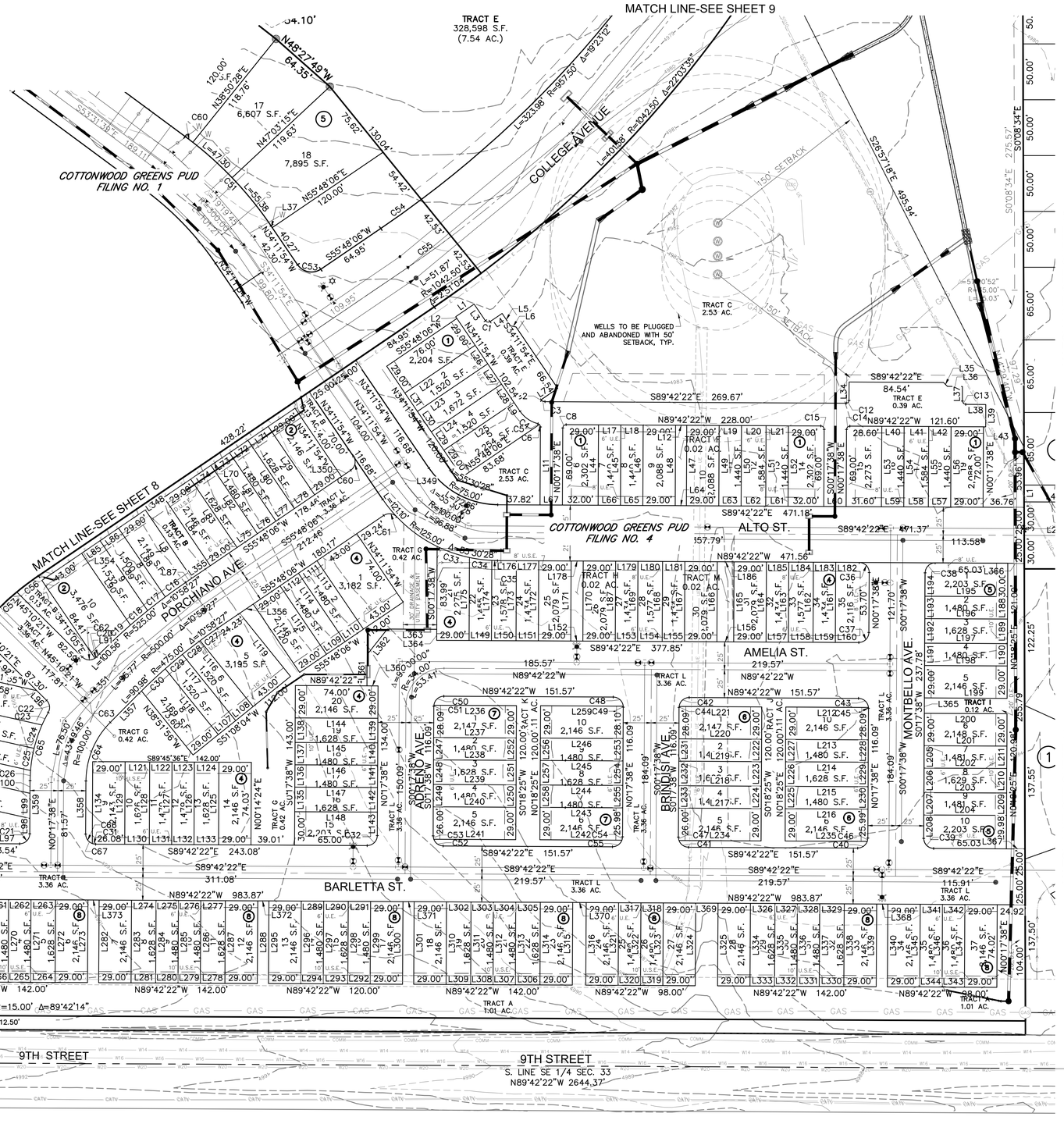
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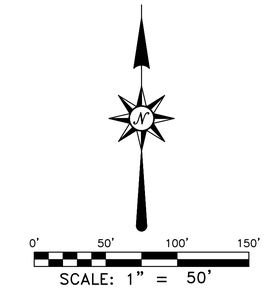
COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO

PROJECT NO. LUP2019-0033 / PLAN NO. PPL2019-0002





LEGEND

- SECTION CORNER, AS NOTED
- OIL/GAS WELL
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY
SECTION LINE
MATCH LINE
UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE

LOT LINE
R.O.W. CENTER LINE
R.O.W. LINE
WETLAND SETBACK LINE
WETLAND LINE

EXISTING UTILITIES

PROPOSED STORM SEWER
PROPOSED WATER LINE
PROPOSED IRRIGATION LINE
PROPOSED SANITARY SEWER

SE COR. SEC. 33
FOUND 2-1/2" ALUMINUM CAP
"GEOSURV 1988 PLS 22097"

DRAFT

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REVISIONS	SHEET 10 OF 14
	FILE NO. 21002318-PRELIM PUD
	DATE 03/31/2022
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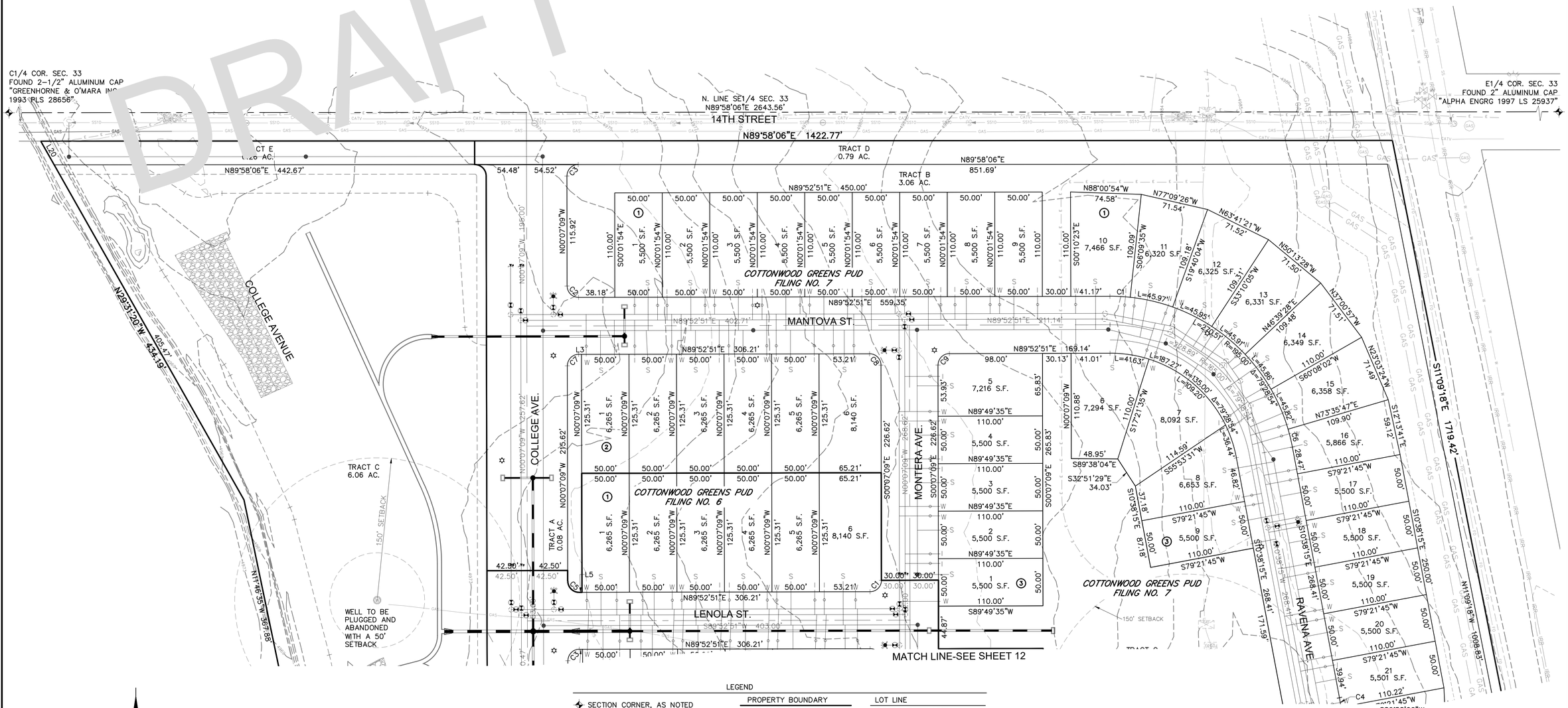
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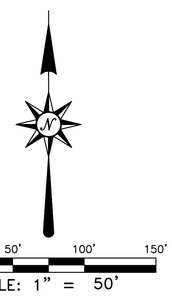
COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

DRAFT





EXISTING UTILITIES

GAS
T
W
OHE
E
SS
FO

LEGEND

- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY
SECTION LINE
MATCH LINE
UTILITY EASEMENT LINE
DRAINAGE EASEMENT LINE

LOT LINE
R.O.W. CENTER LINE
R.O.W. LINE
WETLAND SETBACK LINE
WETLAND LINE

PROPOSED STORM SEWER
PROPOSED WATER LINE
PROPOSED IRRIGATION LINE
PROPOSED SANITARY SEWER

REVISIONS

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SHEET
11
OF 14

FILE NO.	21002318-PRELIM PUD
DATE	03/31/2022
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JOB NO.	21002318

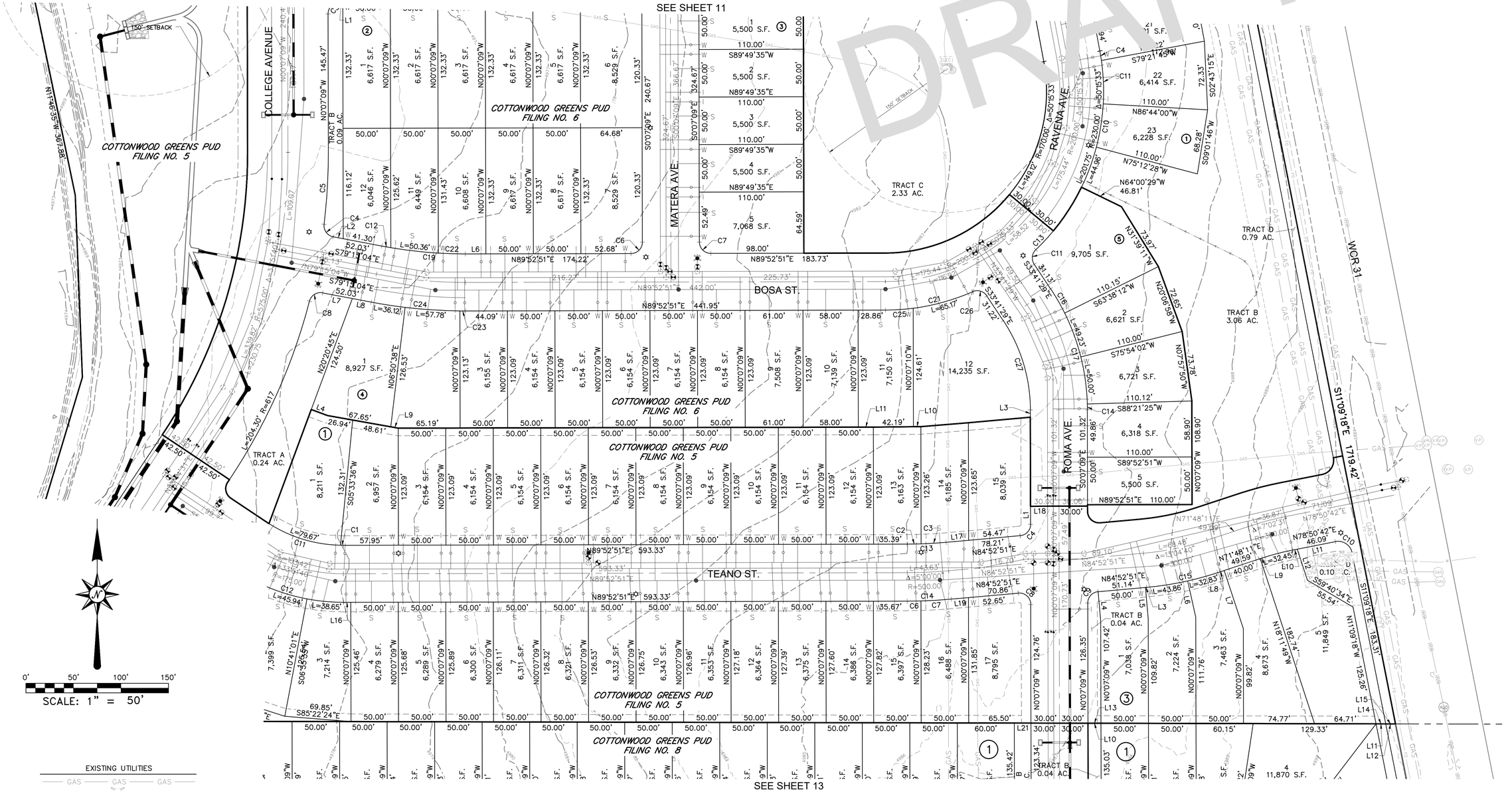
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COTTONWOOD GREENS

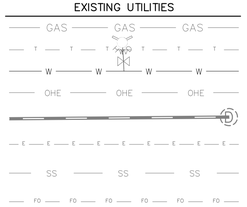
PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

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EXISTING UTILITIES



LEGEND

- PROPOSED STORM SEWER
- PROPOSED WATER LINE
- PROPOSED IRRIGATION LINE
- PROPOSED SANITARY SEWER
- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR
- PROPERTY BOUNDARY
- SECTION LINE
- MATCH LINE
- UTILITY EASEMENT LINE
- DRAINAGE EASEMENT LINE
- LOT LINE
- R.O.W. CENTER LINE
- R.O.W. LINE
- WETLAND SETBACK LINE
- WETLAND LINE

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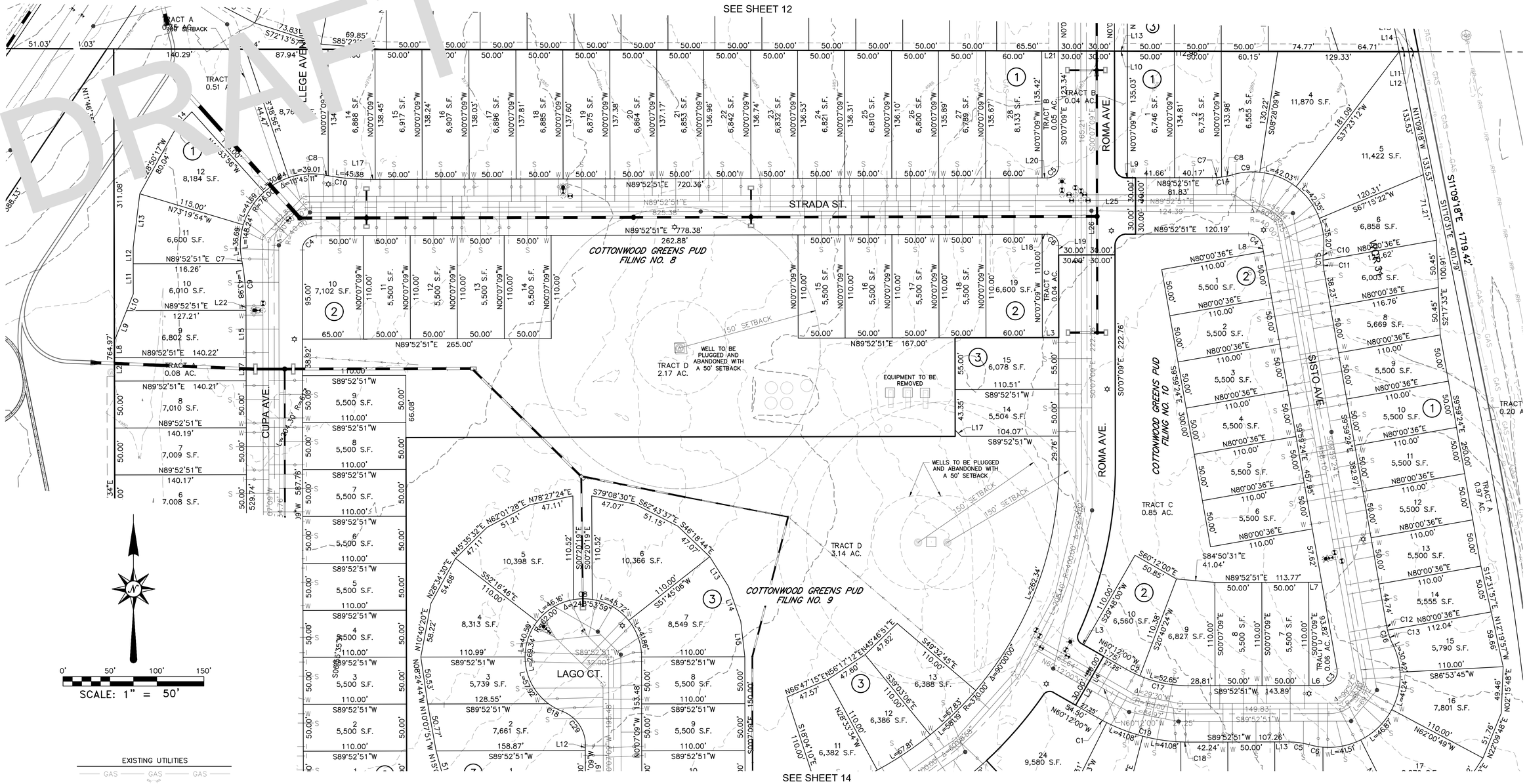
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COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

DRAFT



EXISTING UTILITIES

GAS GAS GAS
T T T T T T T T
W W W W
OHE OHE OHE
E E E E E E E E E
SS SS SS
FO FO FO FO FO FO

LEGEND

- PROPOSED STORM SEWER
- PROPOSED WATER LINE
- PROPOSED IRRIGATION LINE
- PROPOSED SANITARY SEWER
- SECTION CORNER, AS NOTED
- FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
- 20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
- FOUND #4 REBAR

PROPERTY BOUNDARY	LOT LINE
SECTION LINE	R.O.W. CENTER LINE
MATCH LINE	R.O.W. LINE
UTILITY EASEMENT LINE	WETLAND SETBACK LINE
DRAINAGE EASEMENT LINE	WETLAND LINE

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REVISIONS

SHEET 13 OF 14

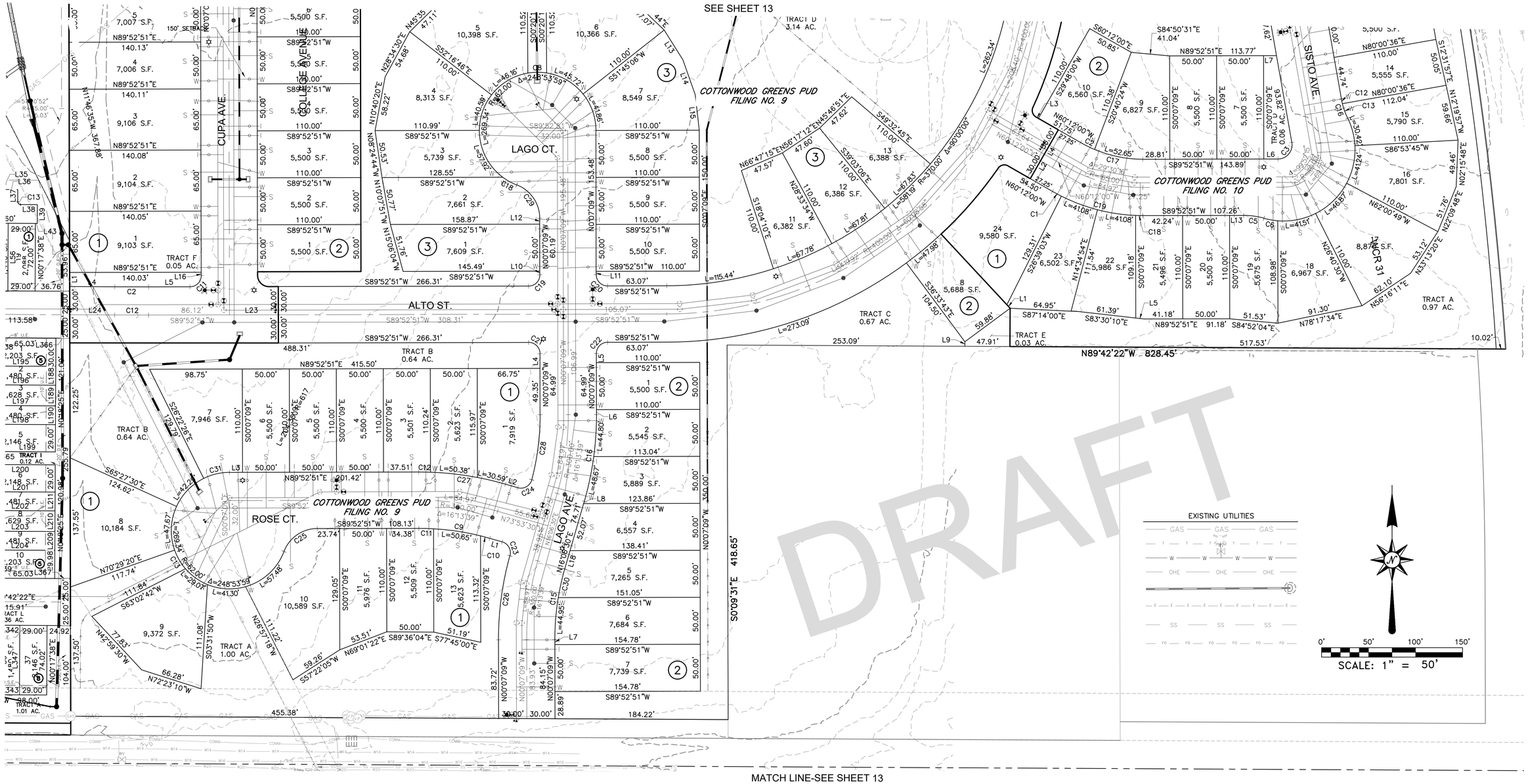
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COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



LEGEND

PROPOSED STORM SEWER	SECTION CORNER, AS NOTED
PROPOSED WATER LINE	FOUND #4 REBAR WITH ORANGE PLASTIC CAP "LS 12330"
PROPOSED IRRIGATION LINE	20.0' REFERENCE MONUMENT FOUND #5 REBAR WITH 2" ALUMINUM CAP "LS 25379 20.0' RM"
PROPOSED SANITARY SEWER	FOUND #4 REBAR

PROPERTY BOUNDARY	LOT LINE
SECTION LINE	R.O.W. CENTER LINE
MATCH LINE	R.O.W. LINE
UTILITY EASEMENT LINE	WETLAND SETBACK LINE
DRAINAGE EASEMENT LINE	WETLAND LINE

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REVISIONS

SHEET 14 OF 14

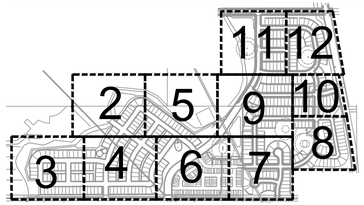
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JOB NO.	21002318

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F5-F10 OVERALL PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	96	Celtis occidentalis Western Hackberry	2.0" cal. BB	60'	40'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust	2.0" cal. BB	50'	30'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree	2.0" cal. BB	60'	40'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	21	Populus deltoides monilifera Plains Cottonwood	2.0" cal. BB	80'	50'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	26	Populus x acuminata Lanceleaf Cottonwood	2.0" cal. BB	60'	40'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	92	Quercus buckleyi Texas Red Oak	2.0" cal. BB	40'	30'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	90	Quercus macrocarpa Burr Oak	2.0" cal. BB	80'	70'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	89	Tilia americana `Redmond` Redmond American Linden	2.0" cal. BB	50'	40'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	28	Ulmus x `Accolade` Accolade Elm	2.0" cal. BB	60'	40'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	26	Juniperus scopulorum Rocky Mountain Juniper	6`, BB	30'	12'		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	21	Picea pungens Colorado Spruce	6`, BB	50'	30'		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	30	Pinus ponderosa Ponderosa Pine	6`, BB	80'	40'		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	20	Pinus strobiformis Southwestern White Pine	6`, BB	50'	30'		FULL SPECIMEN, EVENLY AND WELL BRANCHED
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	24	Acer glabrum Rocky Mountain Maple	1.5" cal. BB	20'	15'		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	9	Amelanchier x grandiflora `Autumn Brilliance` `Autumn Brilliance` Serviceberry	1.5" cal. BB	25'	20'		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	11	Malus x `Spring Snow` Spring Snow Crab Apple	1.5" cal. BB	25'	20'		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	29	Pyrus calleryana `Chanticleer` Chanticleer Pear	1.5" cal. BB	35'	25'		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE				
	189,383 sf	DURA-TURF SOD	sod				IRRIGATED TURF OR APPROVED EQUAL
	931,387 sf	NATIVE GRASS	seed				NON-IRRIGATED NATIVE FOOTHILLS GRASS MIX - ARKANSAS SEED MIX OR APPROVED EQUAL

Landscape Key Map

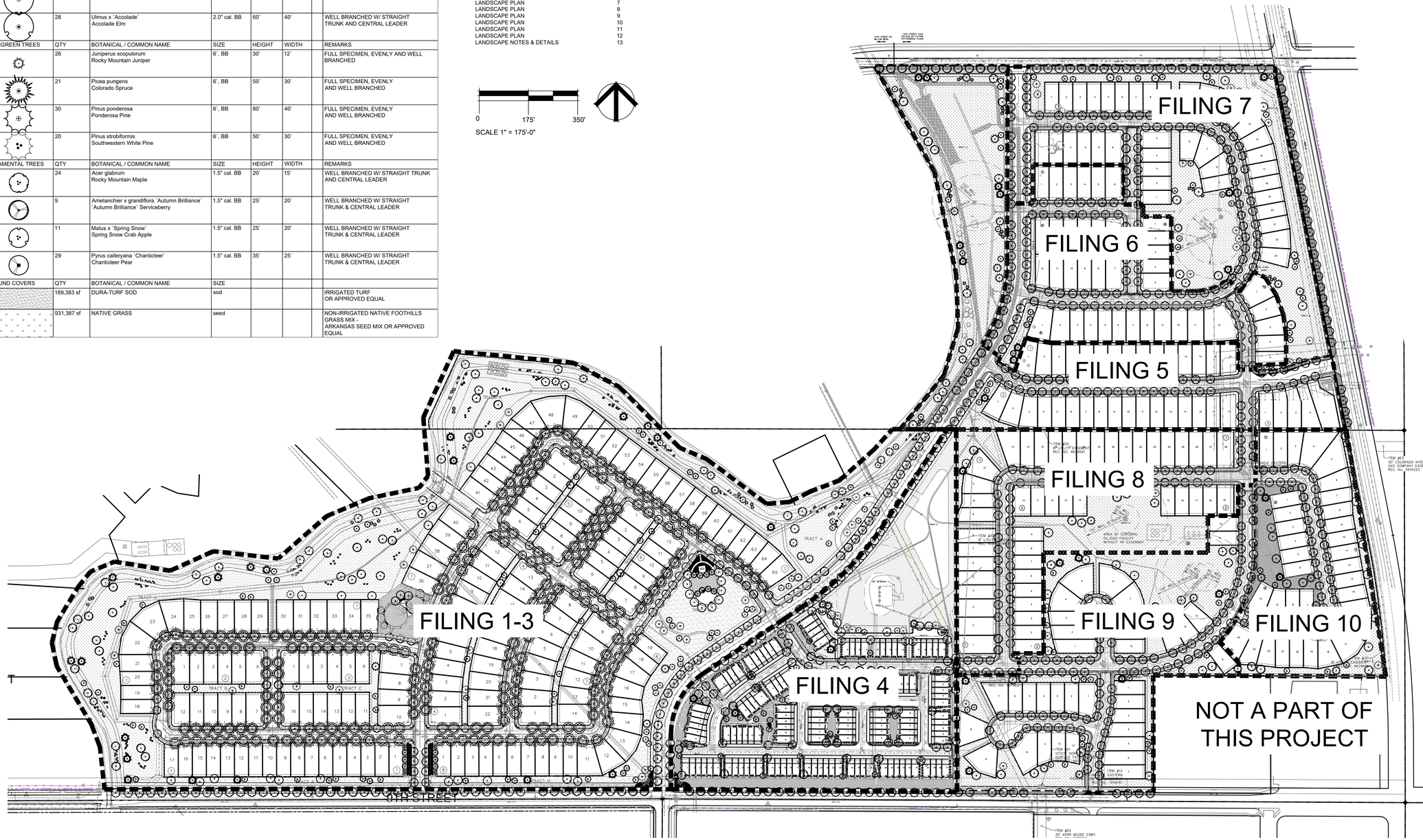


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LANDSCAPE PLAN	2
LANDSCAPE PLAN	3
LANDSCAPE PLAN	4
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LANDSCAPE PLAN	6
LANDSCAPE PLAN	7
LANDSCAPE PLAN	8
LANDSCAPE PLAN	9
LANDSCAPE PLAN	10
LANDSCAPE PLAN	11
LANDSCAPE PLAN	12
LANDSCAPE NOTES & DETAILS	13

0 175' 350'

SCALE 1" = 175'-0"



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Berthoud, CO 80513

TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

PRELIM. PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

COTTONWOOD GREENS DEVELOPMENT, LLC

4040 MACARTHUR BLVD., STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

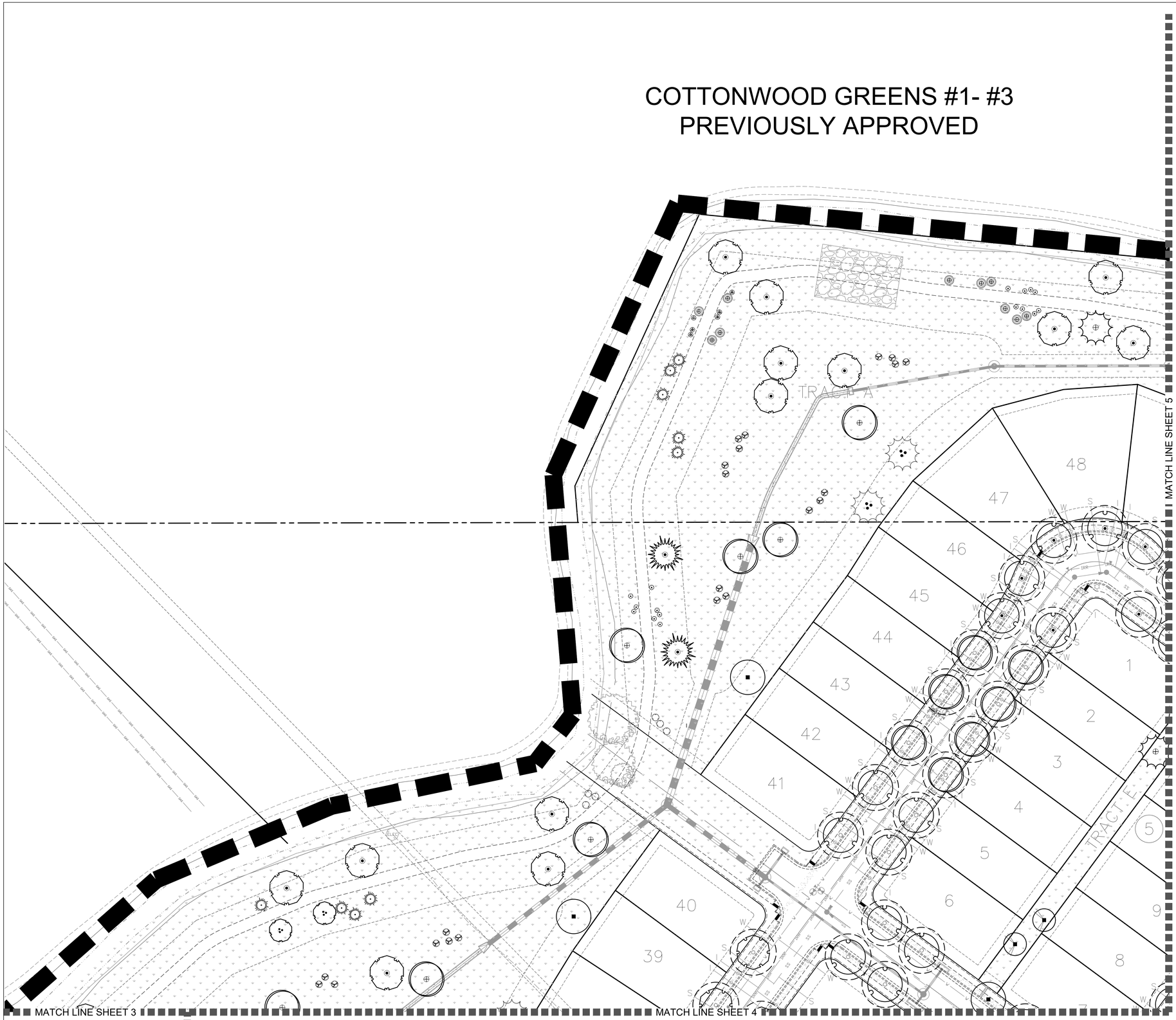
Overall Landscape & Plant Schedule

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Of: 13

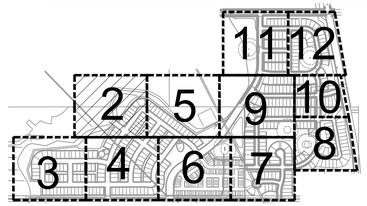
COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED



F5-F10 PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
	96	Celtis occidentalis Western Hackberry
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree
	21	Populus deltoides monilifera Plains Cottonwood
	26	Populus x acuminata Lanceleaf Cottonwood
	92	Quercus buckleyi Texas Red Oak
	90	Quercus macrocarpa Burr Oak
	89	Tilia americana `Redmond` Redmond American Linden
	28	Ulmus x `Accolade` Accolade Elm
EVERGREEN TREES	**QTY**	**BOTANICAL / COMMON NAME**
	26	Juniperus scopulorum Rocky Mountain Juniper
	21	Picea pungens Colorado Spruce
	30	Pinus ponderosa Ponderosa Pine
	20	Pinus strobiformis Southwestern White Pine
ORNAMENTAL TREES	**QTY**	**BOTANICAL / COMMON NAME**
	24	Acer glabrum Rocky Mountain Maple
	9	Amelanchier x grandiflora `Autumn Brilliance` `Autumn Brilliance` Serviceberry
	11	Malus x `Spring Snow` Spring Snow Crab Apple
	29	Pyrus calleryana `Chanticleer` Chanticleer Pear
GROUND COVERS	**QTY**	**BOTANICAL / COMMON NAME**
	189,383 sf	DURA-TURF SOD
	931,387 sf	NATIVE GRASS

Landscape Key Map



NORTH

0 40' 60' 80'

SCALE 1" = 40'-0"

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SEAL

PROJECT TITLE

COTTONWOOD GREENS

PRELIM. PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

COTTONWOOD GREENS DEVELOPMENT, LLC

4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 2

Of: 13

MATCH LINE SHEET 2

COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED

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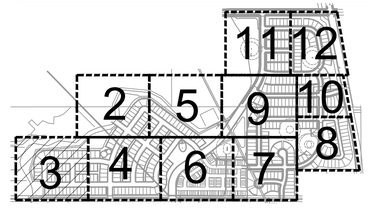
TRACT B

MATCH LINE SHEET 4

F5-F10 PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
	96	Celtis occidentalis Western Hackberry
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree
	21	Populus deltoides monilifera Plains Cottonwood
	26	Populus x acuminata Lanceleaf Cottonwood
	92	Quercus buckleyi Texas Red Oak
	90	Quercus macrocarpa Burr Oak
	89	Tilia americana `Redmond` Redmond American Linden
	28	Ulmus x `Accolade` Accolade Elm
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
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GROUND COVERS	QTY	BOTANICAL / COMMON NAME
	189,383 sf	DURA-TURF SOD
	931,387 sf	NATIVE GRASS

Landscape Key Map



NORTH

0 40' 60' 80'

SCALE 1" = 40'-0"

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PRELIM. PLAT

PROJECT NO:
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PREPARED FOR

COTTONWOOD GREENS DEVELOPMENT, LLC

4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 3

Of: 13

COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED

MATCH LINE SHEET 2

MATCH LINE SHEET 5

MATCH LINE SHEET 6

TRACT C

TRACT D

TRACT G

TRACT H

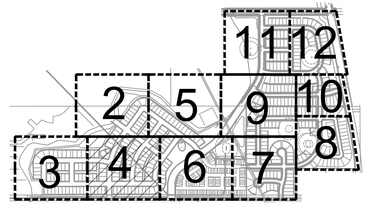
POCKET PARK
SEE
ENLARGEMENT

CHRISTINA

F5-F10 PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
	96	Celtis occidentalis Western Hackberry
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree
	21	Populus deltoides monilifera Plains Cottonwood
	26	Populus x acuminata Lanceleaf Cottonwood
	92	Quercus buckleyi Texas Red Oak
	90	Quercus macrocarpa Burr Oak
	89	Tilia americana `Redmond` Redmond American Linden
	28	Ulmus x `Accolade` Accolade Elm
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
	26	Juniperus scopulorum Rocky Mountain Juniper
	21	Picea pungens Colorado Spruce
	30	Pinus ponderosa Ponderosa Pine
	20	Pinus strobiformis Southwestern White Pine
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME
	24	Acer glabrum Rocky Mountain Maple
	9	Amelanchier x grandiflora `Autumn Brilliance` `Autumn Brilliance` Serviceberry
	11	Malus x `Spring Snow` Spring Snow Crab Apple
	29	Pyrus calleryana `Chanticleer` Chanticleer Pear
GROUND COVERS	QTY	BOTANICAL / COMMON NAME
	189,383 sf	DURA-TURF SOD
	931,387 sf	NATIVE GRASS

Landscape Key Map



NORTH

0 40' 60' 80'

SCALE 1" = 40'-0"

TB GROUP
landscape architecture | planning | illustration

444 Mountain Ave.
Berthoud, CO 80513

TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

PRELIM. PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

COTTONWOOD GREENS DEVELOPMENT, LLC

4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

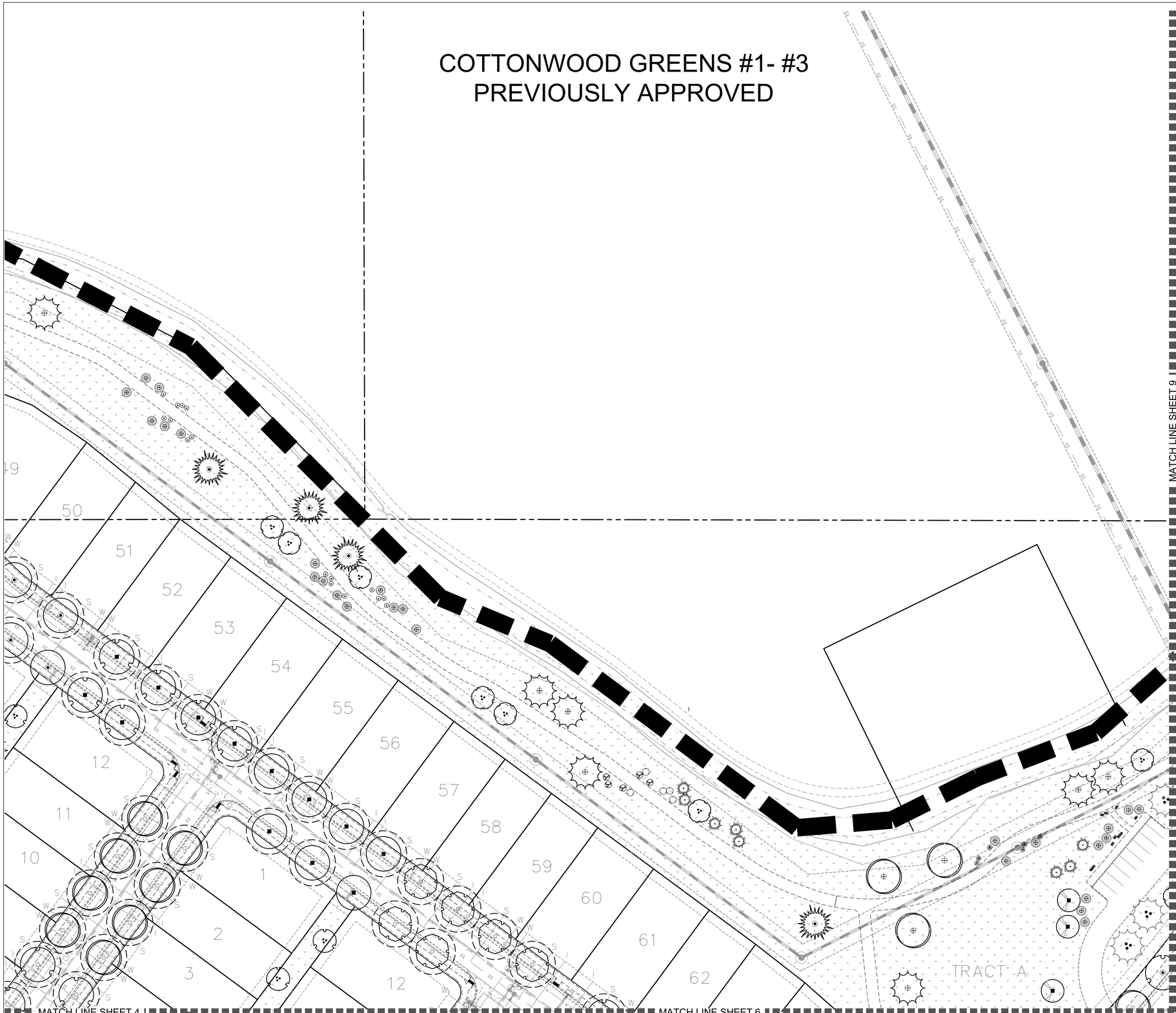
LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 4

Of: 13

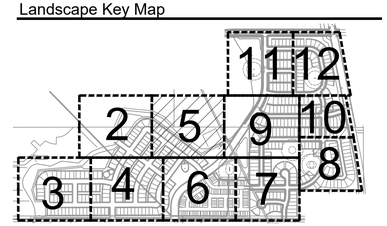
COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED



F5-F10 PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
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GROUND COVERS	QTY	BOTANICAL / COMMON NAME
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	931,387 sf	NATIVE GRASS

Landscape Key Map



NORTH

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SCALE 1" = 40'-0"

TB GROUP
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LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 5

Of: 13

MATCH LINE SHEET 5

MATCH LINE SHEET 9

MATCH LINE SHEET 7

COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED

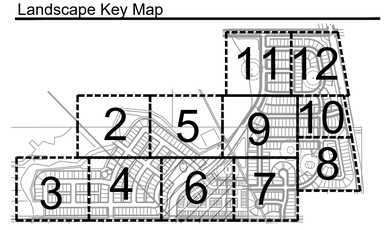
COTTONWOOD GREENS #4
PREVIOUSLY APPROVED

COLLEGE AVENUE (COLLECTOR)

F5-F10 PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
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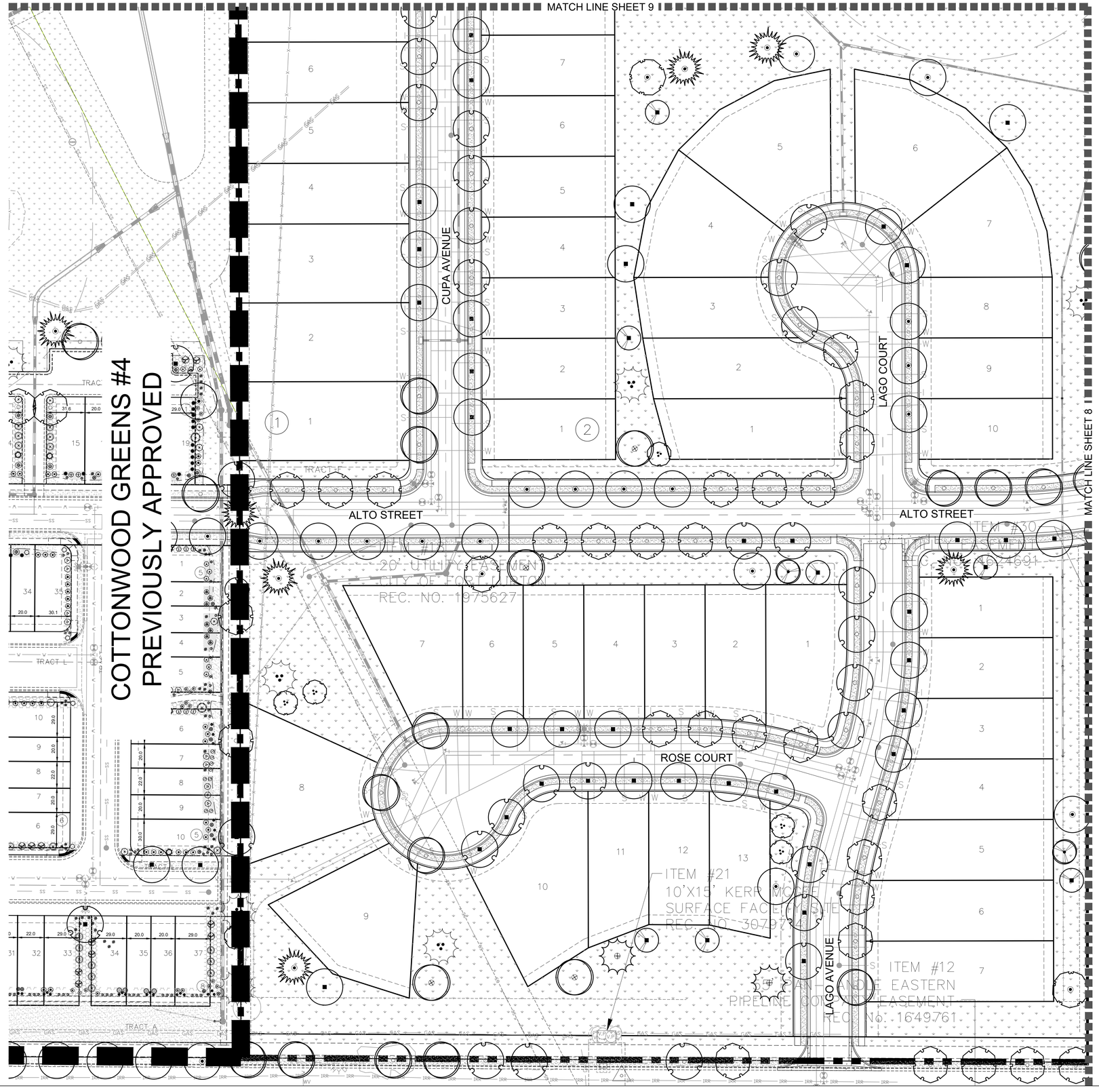
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LANDSCAPE PLAN

SHEET INFORMATION

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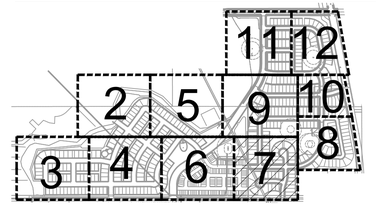
Of: 13



F5-F10 PLANT SCHEDULE

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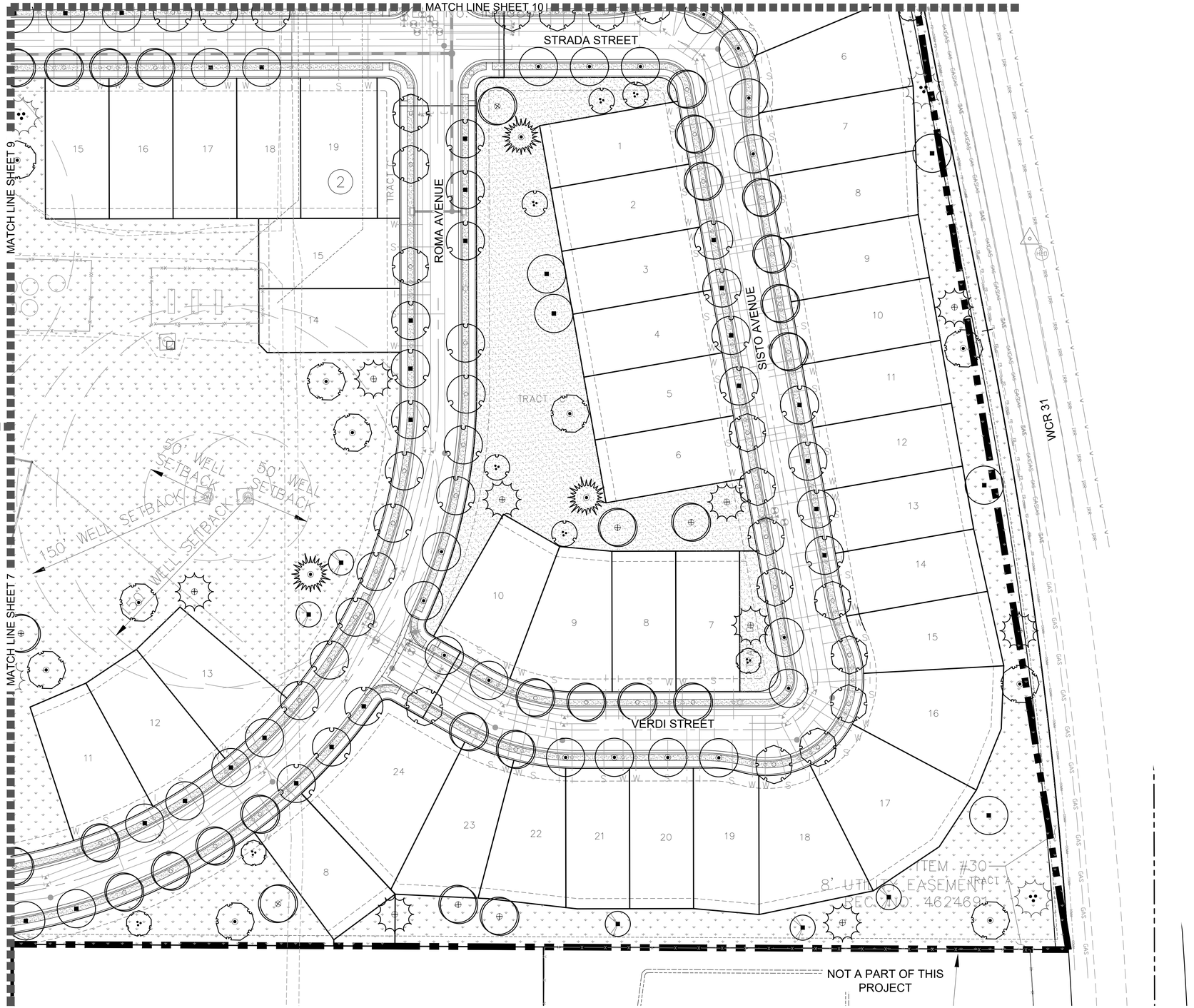
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LANDSCAPE PLAN

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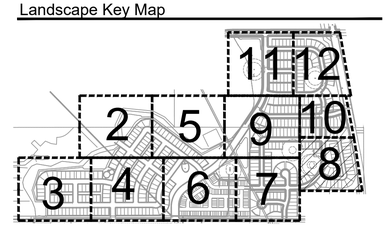
Of: 13



F5-F10 PLANT SCHEDULE

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Landscape Key Map



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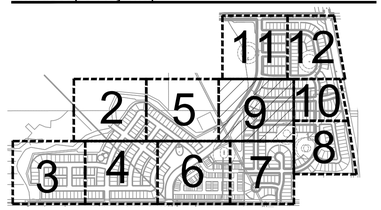
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Of: 13

F5-F10 PLANT SCHEDULE

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Landscape Key Map



NORTH

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NOT A PART OF THIS PROJECT

MATCH LINE SHEET 11

MATCH LINE SHEET 10

MATCH LINE SHEET 8

MATCH LINE SHEET 6

MATCH LINE SHEET 7

COLLEGE AVENUE (COLLECTOR)

COLLEGE AVE

TEANO STREET

STRADA STREET

CUPA AVENUE

TRACT A

TRACT E

TRACT D

ITEM #30
8' UTILITY EASEMENT
REC. NO. 4624691

COTTONWOOD GREENS #1- #3
PREVIOUSLY APPROVED

COTTONWOOD GREENS #4
PREVIOUSLY APPROVED

50' WELL SETBACK

150' WELL SETBACK

AREA OF CONCERN:
OIL/GAS FACILITY
WITHOUT AN EASEMENT

TB GROUP
landscape architecture | planning | illustration

444 Mountain Ave.
Berthoud, CO 80513

TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

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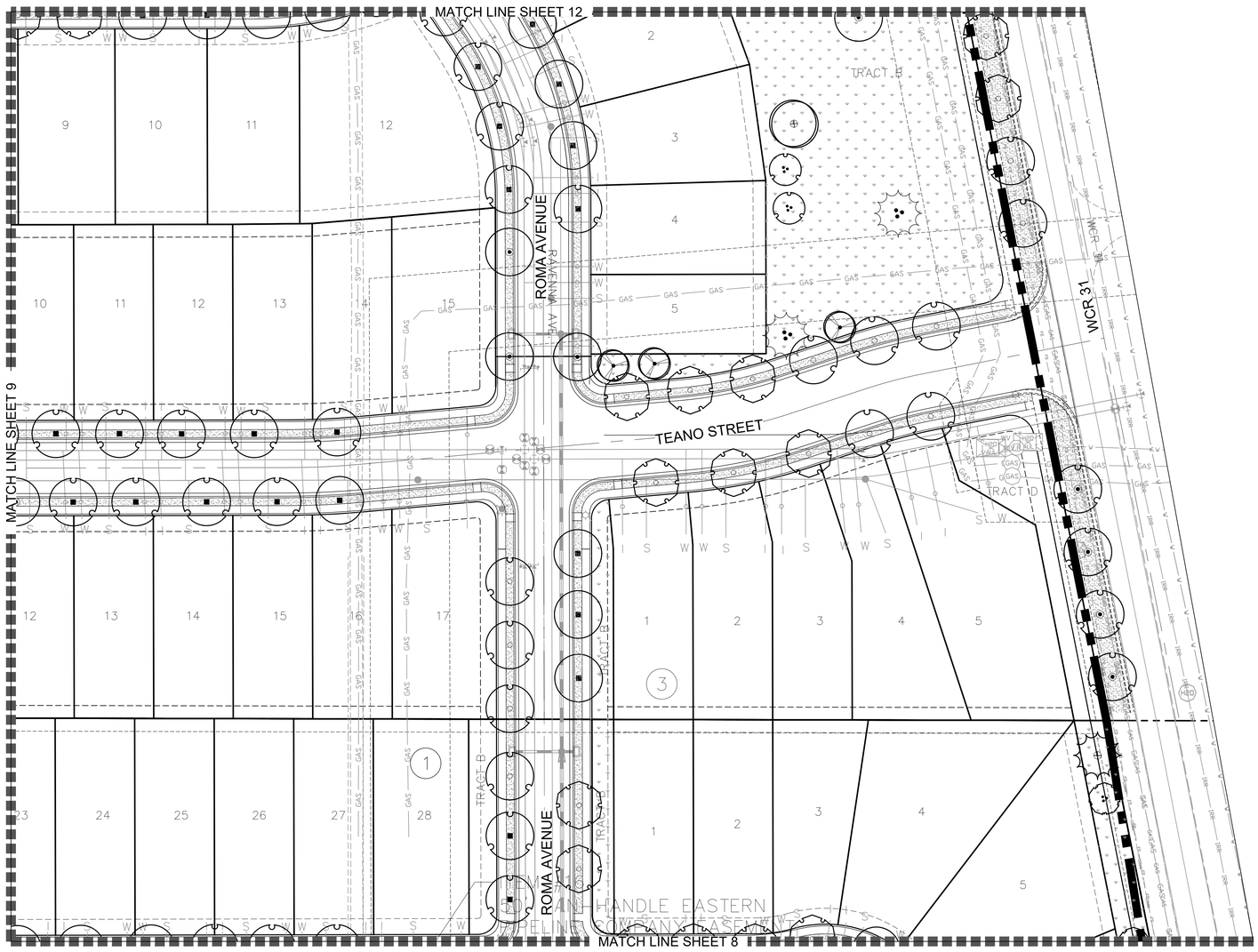
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LANDSCAPE PLAN

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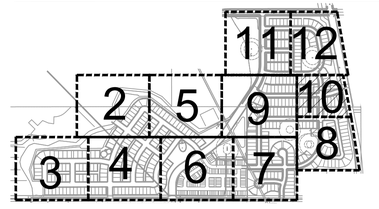
Of: 13



F5-F10 PLANT SCHEDULE

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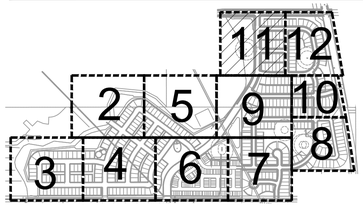
LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 10

Of: 13

Landscape Key Map



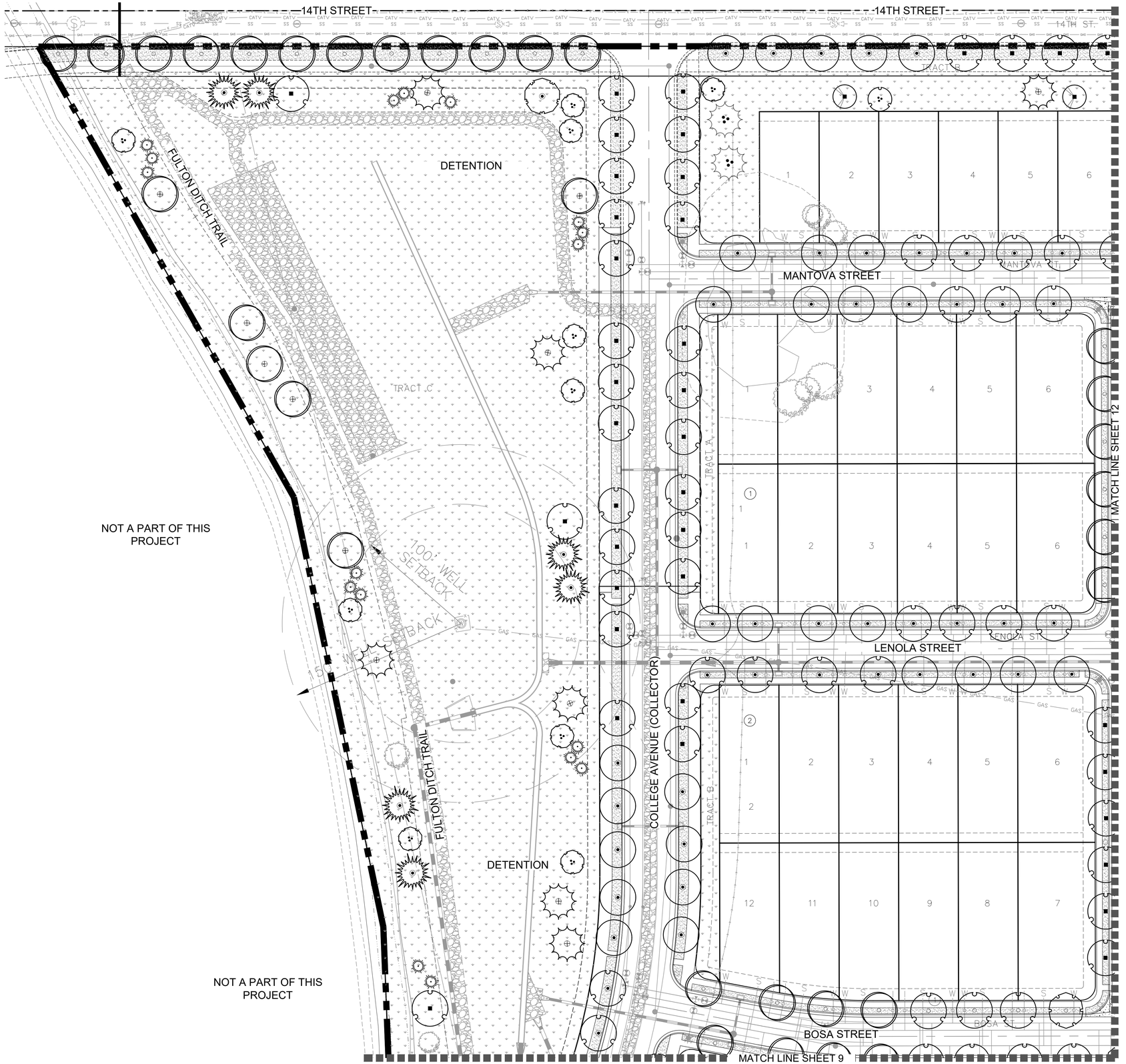
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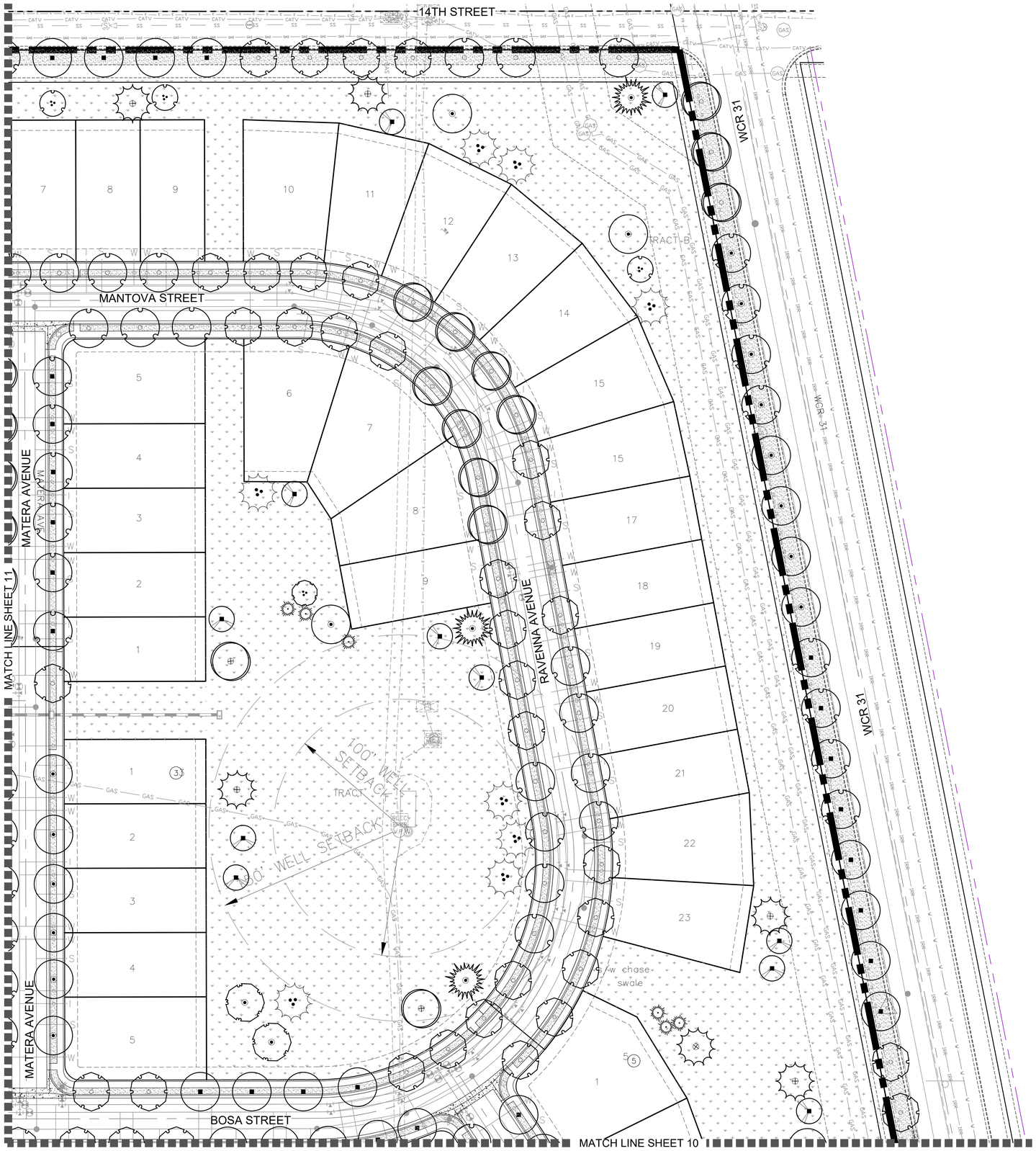
SHEET TITLE

LANDSCAPE PLAN

SHEET INFORMATION

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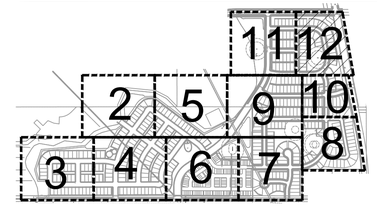
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F5-F10 PLANT SCHEDULE

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SHEET TITLE

LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 12

Of: 13

Landscape Notes

1. LANDSCAPE AREAS SHALL BE MAINTAINED, INCLUDING MOWING, WATERING AND FERTILIZING BY CONTRACTOR, UP TO FINAL ACCEPTANCE. AT SUCH TIME OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE. LANDSCAPE AND IRRIGATION WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE.
2. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
5. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.1 - NO TREES OR SHRUBS SHALL BE PLANTED WITHIN 10' FROM WATER AND SEWER LINES, 4' FROM GAS, TELEPHONE AND ELECTRIC UTILITY LINES.
6. NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, POTABLE WATER, SANITARY SEWER, STORM SEWER, OR NON-POTABLE IRRIGATION MAINS.
7. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
8. TREES SHALL BE LIMBED TO A HEIGHT OF NOT LESS THAN EIGHT (8) FEET ABOVE ANY PUBLIC STREET OR SIDEWALK. SHRUBS AND OTHER PLANT MATERIALS SHALL BE MAINTAINED AT A HEIGHT OF NOT MORE THAN THIRTY (30) INCHES, AND SAID MAINTENANCE SHALL BE CONDUCTED IN PERPETUITY.
9. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
10. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
11. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, AND VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
12. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES.
13. PRIOR TO FINE GRADING, SOD AREAS AND PLANTING BEDS SHALL BE THOROUGHLY LOOSENED AND TILLED TO A 6" DEPTH. REMOVE ALL UNSUITABLE TOPSOIL, INCLUDING ALL ROCKS OR OTHER MATERIAL LARGER THAN 1 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS. AFTER THAT TIME ORGANIC AMENDMENTS SHALL THEN BE THOROUGHLY TILLED AND INCORPORATED TO A MINIMUM 6" DEPTH IN THESE AREAS AT THE MINIMUM OF RATE OF 3 CU. YDS. / 1,000 SQ.FT.
14. UNIFORMLY COMPACT AND FINE GRADE THESE SOD / GRASS AREAS AND PLANTING BEDS TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. CUT OUT SOFT SPOTS, FILL IN LOW SPOTS AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED GRADE TOLERANCES.
15. ONCE COMPACTED AND FINE GRADED, ALL ROCKS, DEBRIS, WASTE MATERIAL AND VEGETATION MATERIAL LARGER THAN 1/2" WILL BE RAKED FROM THE SURFACE AND REMOVED FROM SITE.
16. SOD TO BE 100% COLORADO GROWN DURA-TURF TALL FESCUE BLEND SPECIFICALLY GROWN FOR LOW WATER LAWN APPLICATIONS WITH MINIMUM THREE (3) IMPROVED VARIETIES, HAVING A HEALTHY VIGOROUS ROOT SYSTEM. ONCE TURF IS LAID IT SHALL BE PROPERLY ROLLED, COMPACTED AND PUSHED TOGETHER TO ELIMINATE ANY GAPS BETWEEN ROLL EDGES. APPLY FERTILIZER IN THESE AREAS PER SOD FARM'S RECOMMENDATIONS.
17. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
18. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
19. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
20. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
21. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
22. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH SHREDDED CEDAR MULCH OR NATURAL COLOR AND/OR WASHED SMOOTH RIVER ROCK. A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL SHRUB BEDS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.
23. EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK COBBLE AND CRUSHER FINES SHALL BE 14 GA HEAVY DUTY STEEL EDGER MIN. ¼" x 4" WITH ROLLED TOP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT SOD.

General Notes:

1. ALL SIGNS SHALL BE REQUIRED TO APPLY FOR A SIGN PERMIT.
2. PROPOSED GRADES SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
3. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
4. SOILS DISTURBED ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED EQUIVALENT TO THAT CONDITION PRIOR TO START OF WORK.
5. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
6. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
7. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF LOVELAND IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
8. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.

Irrigation Notes

1. IRRIGATION CONTRACTOR SHALL VERIFY AVAILABLE P.S.I. AND GPM. THIS SYSTEM SHALL THEN BE VERIFIED TO MEET THE AVAILABLE P.S.I. AND GPM AND THE PROPOSED IRRIGATION SYSTEM. IF NECESSARY CONTACT THE WATER DEPARTMENT PRIOR TO BEGINNING DESIGN TO OBTAIN AVAILABLE PRESSURES.
2. ALL INDICATED SOD GRASS AREAS ARE TO BE IRRIGATED BY A PERMANENT UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. TURF AREAS LESS THAN 25 FEET IN WIDTH ARE TO BE IRRIGATED WITH POP-UP SPRAY HEADS, AND AREAS GREATER THAN 25 FEET SHALL USE A ROTOR POP-UP SPRAY SYSTEM. ALL IRRIGATION SYSTEMS SHALL BE DESIGNED TO MINIMIZE OVERSPRAY.
3. ALL TREES, SHRUBS AND PERENNIALS OUTSIDE OF IRRIGATED SOD AREAS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM. IRRIGATION SYSTEMS SHALL BE DESIGNED TO AVOID OVERSPRAY ONTO NON-PLANTED AND IMPERVIOUS SURFACES. IRRIGATION SYSTEMS SHALL BE MAINTAINED IN GOOD WORKING ORDER AND CHECKED TO ENSURE THAT OVERSPRAY DOES NOT OCCUR.
4. FINAL LOCATION OF IRRIGATION HEADS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. HEAD LOCATION SHALL BE COORDINATED IN THE FIELD WITH EXISTING SITE CONDITIONS AND PLANT MATERIAL.
5. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
6. COORDINATE ALL IRRIGATION WORK WITH EXISTING UTILITIES AND RESPECTIVE TRADES.
7. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

Tree Protection Notes

1. HEAVY EQUIPMENT SHOULD NOT BE ALLOWED TO COMPACT OVER THE SOIL OVER THE ROOT ZONE OF PROTECTED EXISTING TREES.
2. AVOID CUTTING SURFACE ROOTS WHEREVER POSSIBLE. SIDEWALKS AND PAVING LEVELS SHOULD BE CONTOURED SUFFICIENTLY TO AVOID DAMAGE.
3. ROOT CUTS FROM EXCAVATION SHOULD BE DONE RAPIDLY. SMOOTH FLUSH CUTS SHOULD BE MADE. BACKFILL BEFORE THE ROOTS HAVE A CHANCE TO DRY OUT AND WATER THE TREE IMMEDIATELY.
4. PRIOR TO CONSTRUCTION, ALL PROTECTED TREES SHALL HAVE ORANGE PROTECTION BARRIER FENCING ERECTED, WHICH AS A MINIMUM ARE SUPPORTED BY I" X I" OR SIMILAR STURDY STOCK, FOR SHIELDING OF PROTECTED TREES, NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE HALF (/ /2) OF THE DRIP LINE, WHICH EVER IS GREATER. WITHIN THIS PROTECTION ZONE THERE SHALL BE NO MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, FILL OR CUT UNLESS APPROVED BY THE CITY FORESTER.
5. WITHIN THE DRIP LINE OF ANY PROTECTED EXISTING TREE, THERE SHALL BE NO CUT OR FILL OVER A FOUR INCH DEPTH UNLESS A QUALIFIED ARBORIST OR FORESTER HAS EVALUATED AND APPROVED THE DISTURBANCE.
6. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE OR DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE, WITHIN THE DRIP LINE OF ANY PROTECTED TREE OR GROUP OF TREES.
7. NO DAMAGING ATTACHMENT, WIRES, SIGNS OR PERMITS MAY BE FASTENED TO ANY PROTECTED TREE.

Native Grass Seed Mix

NATIVE GRASS - NATIVE PRAIRIE MEADOW GRASS MIX:

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
2. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

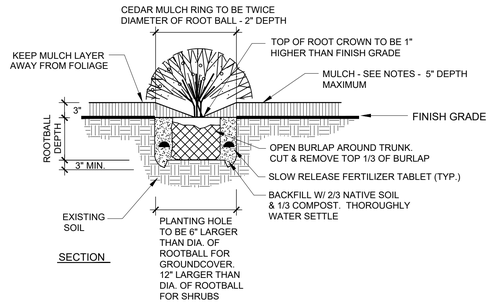
NON-IRRIGATED FOOTHILLS MIX

COMMON NAME	%
ANNUAL RYEGRASS	20%
SLENDER WHEATGRASS	15%
CRESTED WHEATGRASS	12%
MOUNTAIN BROME	10%
HARD FESCUE	10%
CANADA BLUEGRASS	10%
SIDEOATS GRAMA	6%
BIG BLUESTEM	5%
BLUE GRAMA (COATED)	5%
SAND DROPSEED	1%

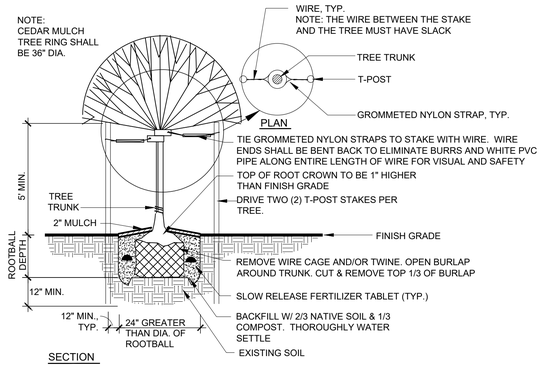
3. DRILLED APPLICATION RATE: 25.0 LBS (PLS) PER ACRE (0.57 LBS / 1000 SF
4. NATIVE SEED AREAS: ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED FOR THE ESTABLISHMENT AND MAINTENANCE FOR THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

1. IMMEDIATELY FOLLOWING THE RAKING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
2. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAS ¼ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
4. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
5. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

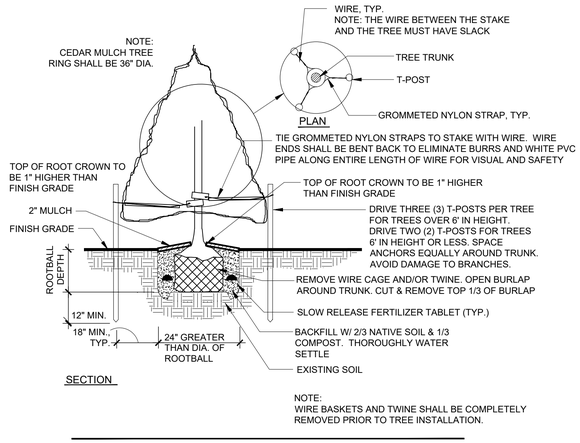


GROUND COVER & SHRUB PLANTING DETAIL



NOTE:
WIRE BASKETS AND TWINE SHALL BE COMPLETELY REMOVED PRIOR TO TREE INSTALLATION.

DECIDUOUS TREE PLANTING DETAIL



NOTE:
WIRE BASKETS AND TWINE SHALL BE COMPLETELY REMOVED PRIOR TO TREE INSTALLATION.

CONIFER TREE PLANTING DETAIL

TB GROUP
landscape architecture | planning | illustration
444 Mountain Ave.
Berthoud, CO 80513
TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

PRELIM. PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

COTTONWOOD GREENS DEVELOPMENT, LLC

4040 MACARTHUR BLVD., STE. 250
NEWPORT BEACH, CA 92660

REVISIONS | DATE

DATE

January 28, 2022

SHEET TITLE

Landscape Notes & Details

SHEET INFORMATION

Sheet Number: 13

Of: 13

COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

15.31 ACRES

LEGAL DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 87°46'51" EAST 763.89 FEET TO THE SOUTH RIGHT–OF–WAY LINE OF 14TH STREET AND THE NORTHWEST CORNER OF SAID THERMO–FARMS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID SOUTH RIGHT–OF–WAY LINE AND ALONG THE NORTH LINE OF SAID THERMO–FARMS NORTH 89°58'06" EAST 456.81 FEET;

THENCE DEPARTING SAID SOUTH RIGHT–OF–WAY LINE AND SAID NORTH LINE SOUTH 00°01'47" EAST 25.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AND A CENTER WHICH BEARS SOUTH 45°04'31" EAST;

THENCE 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45" TO A POINT OF TANGENCY;

THENCE SOUTH 00°07'09" EAST 656.17 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 532.50 FEET;

THENCE 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40" TO A POINT OF NON–TANGENCY;

THENCE SOUTH 56°15'29" EAST 85.00 FEET;

THENCE SOUTH 33°44'31" WEST 3.48 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE SOUTH 56°15'29" EAST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE HAVING A RADIUS OF 145.00 FEET;

THENCE 3.03 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°11'50" TO A POINT OF NON–TANGENCY;

THENCE NORTH 20°20'45" EAST 127.99 FEET;

THENCE SOUTH 69°39'15" EAST 18.25 FEET;

THENCE SOUTH 79°55'29" EAST 75.55 FEET;

THENCE NORTH 89°52'51" EAST 500.00 FEET;

THENCE NORTH 89°25'40" EAST 50.00 FEET;

THENCE NORTH 85°16'56" EAST 50.16 FEET;

THENCE NORTH 84°52'51" EAST 65.46 FEET;

THENCE SOUTH 00°07'09" EAST 93.65 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 5.63 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO A POINT OF TANGENCY;

THENCE NORTH 84°52'51" EAST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 264.00 FEET;

THENCE 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40" TO A POINT OF TANGENCY;

THENCE NORTH 71°48'11" EAST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET;

THENCE 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31" TO A POINT OF TANGENCY;

THENCE NORTH 78°50'42" EAST 46.09 FEET TO A POINT OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 15.00 FEET;

THENCE 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59" TO A POINT OF NON–TANGENCY;

THENCE NORTH 78°50'42" EAST 10.00 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY ROAD 31, ALSO BEING THE EASTERLY LINE OF SAID THERMO–FARMS;

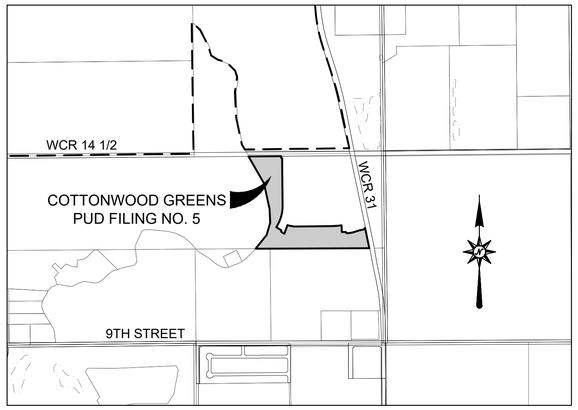
THENCE ALONG SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID EASTERLY LINE SOUTH 11°09'18" EAST 287.30 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33, ALSO BEING THE SOUTH LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID SOUTH LINES NORTH 89°52'26" WEST 1498.55 FEET TO THE WESTERLY LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID WESTERLY LINE THE FOLLOWING FIVE (5) COURSES:

1. NORTH 39°06'23" EAST 246.83 FEET;
2. NORTH 16°42'35" EAST 177.01 FEET;
3. NORTH 02°13'20" WEST 191.53 FEET;
4. NORTH 11°45'35" WEST 367.88 FEET;
5. NORTH 29°31'20" WEST 434.19 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 667,121 SQUARE FEET, OR 15.31 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 5, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 5 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 5

FILE NO.	21002209 CC FLE 5
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	15,261	0.35	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,817	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	264,050	6.06	DETENTION, OPEN SPACE	METRO DISTRICT
D	4,189	0.10	UTILITIES, OPEN SPACE	METRO DISTRICT
E	11,243	0.26	RIGHT-OF-WAY	FORT LUPTON
	296,560	6.75		
LOTS (37)	252,517	5.79		
RIGHT-OF-WAY	129,287	2.97		
TOTAL	667,121	15.31		

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

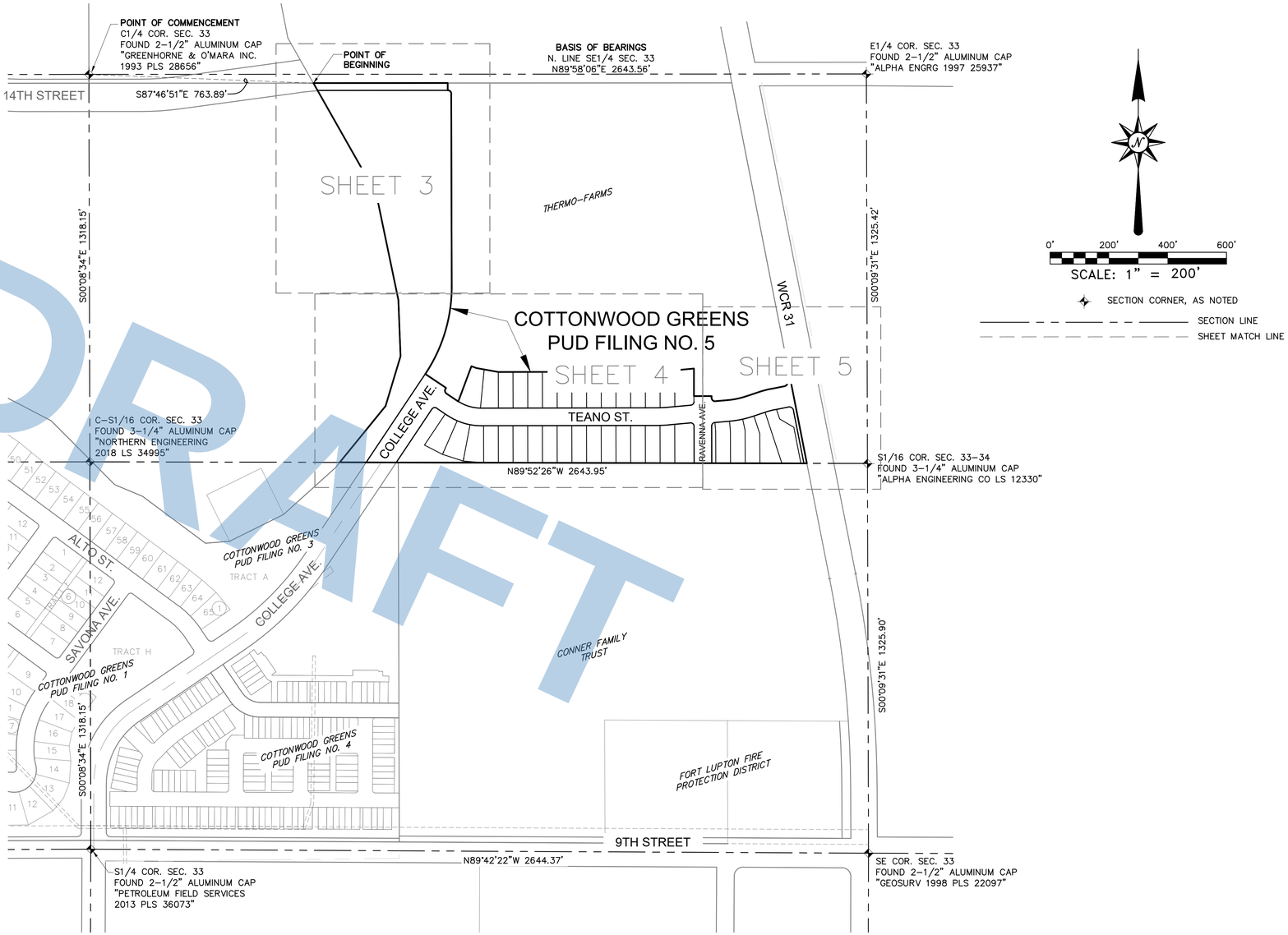
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT NO. 0019515-030-TH-EG DATED OCTOBER 5, 2018 IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 658,877 SQARE FEET, OR 15.13 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U.S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 5

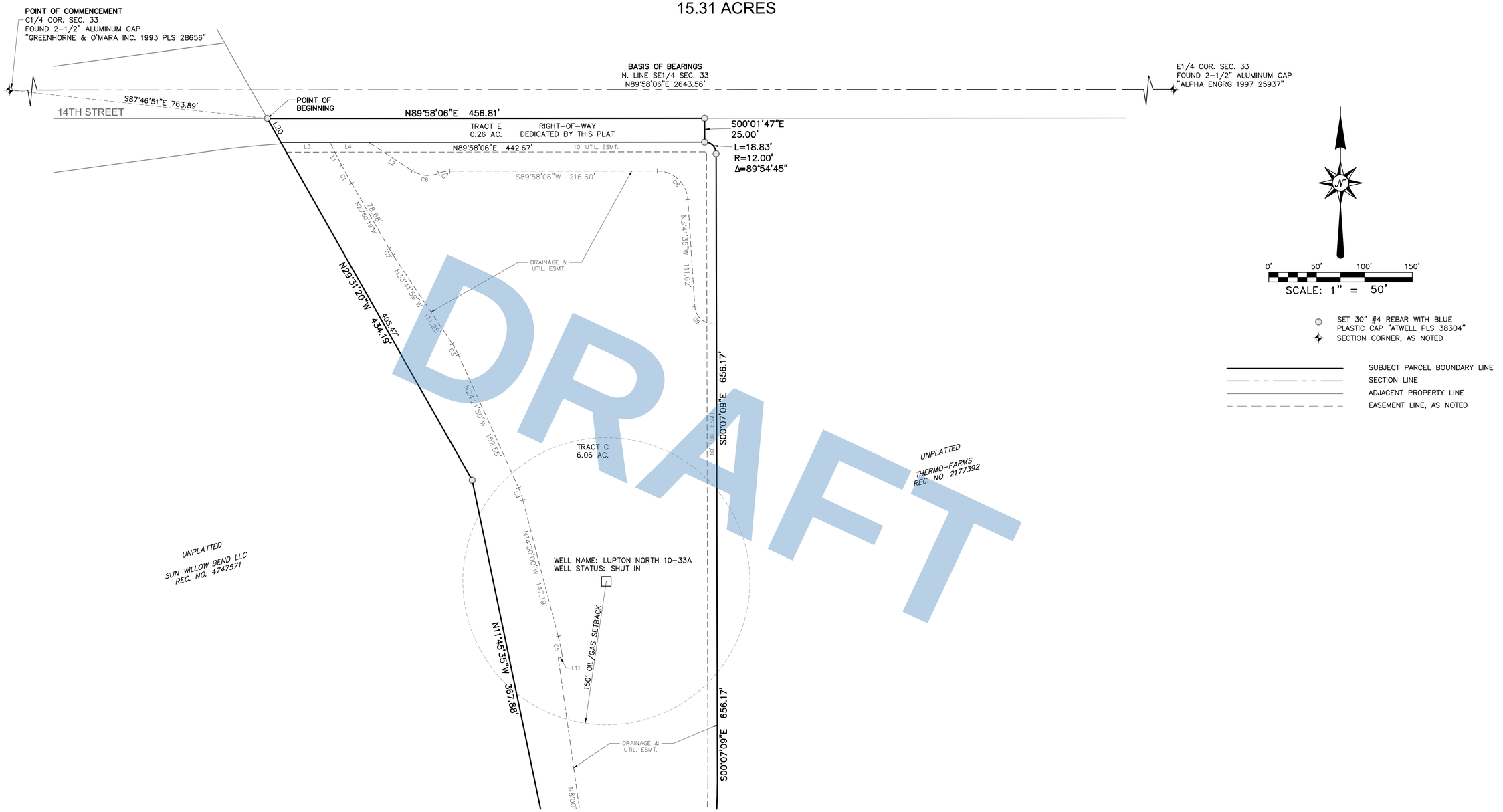
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES



SEE SHEET 4

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 5

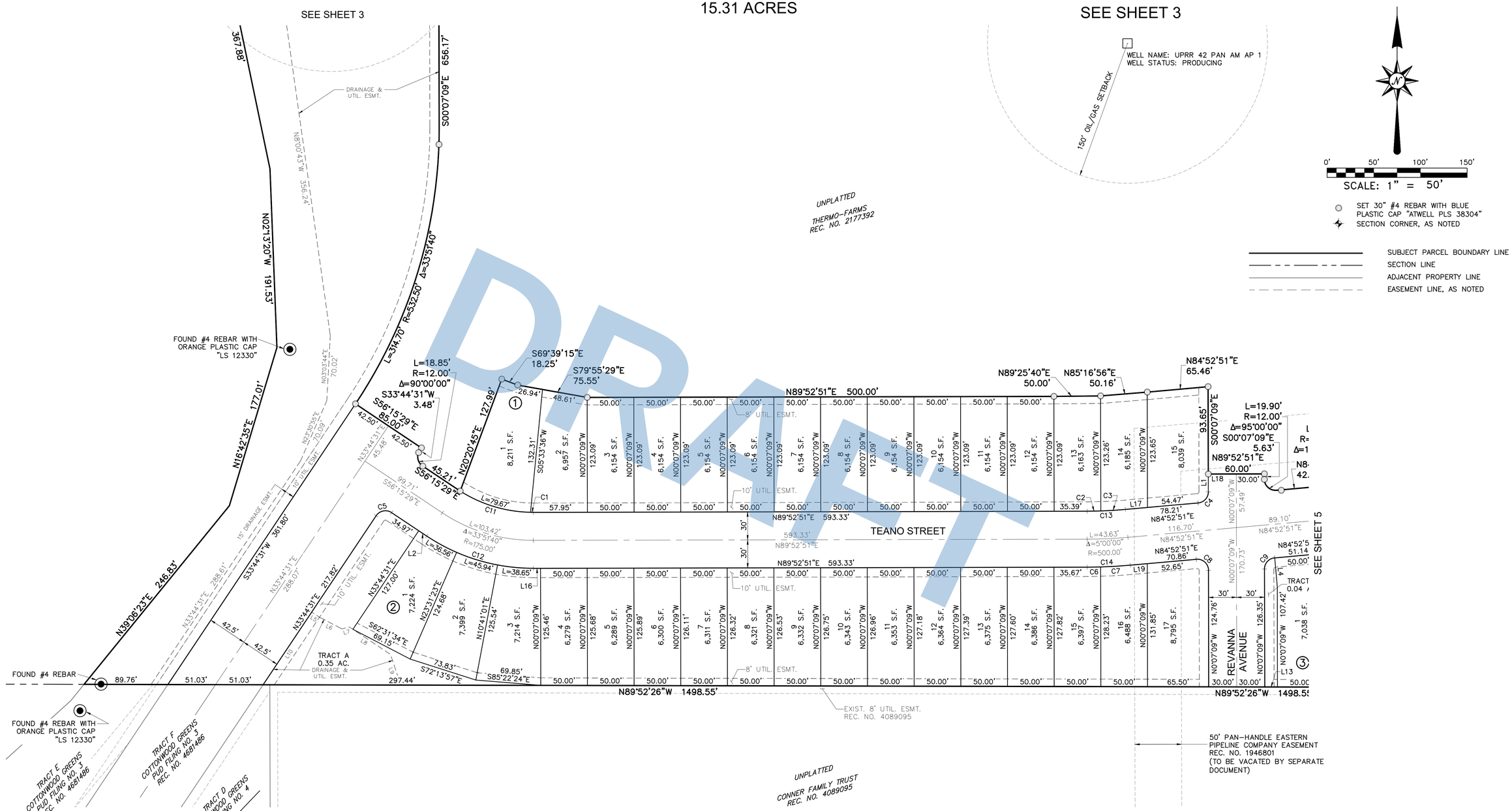
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



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PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD TWK
38304
PROFESSIONAL LAND SURVEYOR

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143 UNION BOULEVARD, SUITE 700
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303.462.1100

REVISIONS

SHEET 4 OF 5

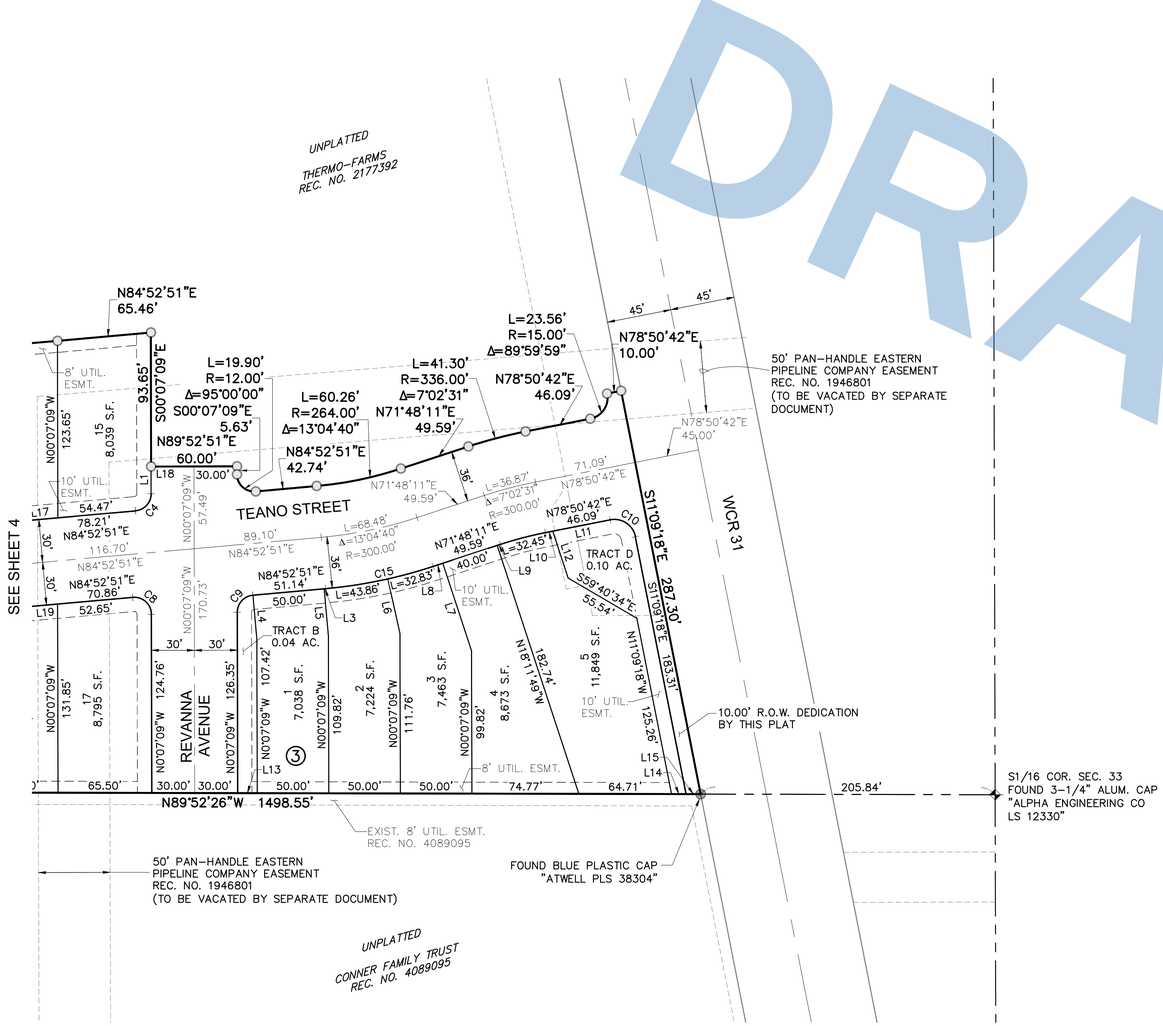
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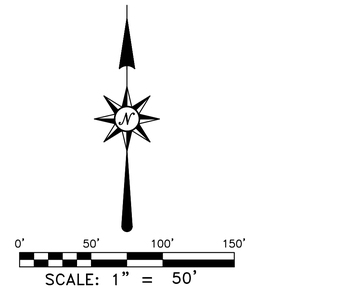
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





LOT & TRACT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N00°07'09"W	19.01'
L2	S56°15'29"E	10.25'
L3	S84°52'51"W	1.14'
L4	N05°07'09"W	31.06'
L5	N05°07'09"W	33.24'
L6	N12°35'55"W	39.06'
L7	N18°11'49"W	64.35'
L8	S71°48'11"W	7.17'
L9	S71°48'11"W	2.42'
L10	S78°50'42"W	5.25'
L11	S78°50'42"W	40.84'
L12	N18°11'49"W	34.53'
L13	N89°52'26"W	13.66'
L14	N89°52'26"W	10.20'
L15	N89°52'26"W	10.20'
L16	S89°52'51"W	7.66'
L17	S84°52'51"W	23.74'
L18	N89°52'51"E	30.00'
L19	S84°52'51"W	18.21'
L20	N29°31'20"W	28.72'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	1°10'58"	145.00'	2.99'
C2	1°46'55"	470.00'	14.62'
C3	3°13'05"	470.00'	26.40'
C4	85°00'00"	12.00'	17.80'
C5	90°00'00"	12.00'	18.85'
C6	1°32'58"	530.00'	14.33'
C7	3°27'02"	530.00'	31.92'
C8	95°00'00"	12.00'	19.90'
C9	85°00'00"	12.00'	17.80'
C10	90°00'00"	15.00'	23.56'
C11	33°51'40"	145.00'	85.69'
C12	33°51'41"	205.00'	121.15'
C13	5°00'00"	470.00'	41.02'
C14	5°00'00"	530.00'	46.25'
C15	13°04'40"	336.00'	76.69'

EASEMENT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N27°23'50"W	27.00'
L2	N57°11'52"W	50.39'
L3	N89°58'20"E	51.23'
L4	N89°57'48"E	40.33'
L5	N56°15'29"W	9.45'
L6	N62°31'34"W	27.72'
L7	S75°36'29"W	8.22'
L8	N56°15'29"W	52.86'
L9	N18°38'56"W	34.67'
L10	N33°44'31"E	93.67'
L11	N75°30'00"E	4.58'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	2°26'29"	500.00'	21.30'
C2	3°51'40"	120.00'	8.09'
C3	9°20'09"	80.00'	13.04'
C4	9°51'50"	80.00'	13.77'
C5	3°46'40"	199.00'	13.12'
C6	54°30'15"	30.00'	28.54'
C7	21°40'13"	32.00'	12.10'
C8	86°20'19"	32.00'	48.22'
C9	86°25'34"	20.00'	30.17'

DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WELL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 5

FILE NO. 21002209 CC FLC 5
DATE 02/02/2022
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COTTONWOOD GREENS PUD FILING NO. 6

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 68°38'55" EAST 1323.87 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE DEPARTING SAID EASTERLY LINE NORTH 89°52'51" EAST 85.00 FEET;

THENCE SOUTH 00°07'09" EAST 11.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 3.00 FEET;

THENCE NORTH 00°07'09" WEST 125.31 FEET;

THENCE NORTH 89°52'51" EAST 315.21 FEET;

THENCE SOUTH 00°07'09" EAST 113.31 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 72.18 FEET;

THENCE NORTH 89°49'35" EAST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 264.59 FEET;

THENCE NORTH 89°52'51" EAST 85.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 170.00 FEET;

THENCE 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";

THENCE SOUTH 50°22'42" EAST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;

THENCE 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";

THENCE SOUTH 64°00'29" EAST 46.81 FEET;

THENCE SOUTH 31°39'11" EAST 73.97 FEET;

THENCE SOUTH 20°06'58" EAST 72.65 FEET;

THENCE SOUTH 07°57'50" EAST 73.78 FEET;

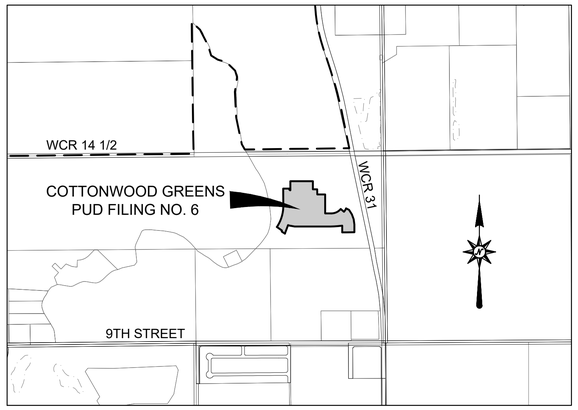
THENCE SOUTH 00°07'09" EAST 180.09 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE ALONG THE BOUNDARY OF SAID COTTONWOOD GREENS PUD FILING NO. 5 THE FOLLOWING SIXTEEN (16) COURSES:

1. SOUTH 00°07'09" EAST 1.46 FEET;
2. SOUTH 89°52'51" WEST 60.00 FEET;
3. NORTH 00°07'09" WEST 93.65 FEET;
4. SOUTH 84°52'51" WEST 65.46 FEET;
5. SOUTH 85°16'56" WEST 50.16 FEET;
6. SOUTH 89°25'40" WEST 50.00 FEET;
7. SOUTH 89°52'51" WEST 500.00 FEET;
8. NORTH 79°55'29" WEST 75.55 FEET;
9. NORTH 69°39'15" WEST 18.25 FEET;
10. SOUTH 20°20'45" WEST 127.99 FEET;
11. NORTH 56°15'29" WEST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
12. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
13. NORTH 33°44'31" EAST 3.48 FEET;
14. NORTH 56°15'29" WEST 85.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 532.50 FEET AND A CENTER WHICH BEARS NORTH 56°15'29" WEST;
15. 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40";
16. NORTH 00°17'09" WEST 240.47 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 442,010 SQUARE FEET, OR 10.15 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 6, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 6 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

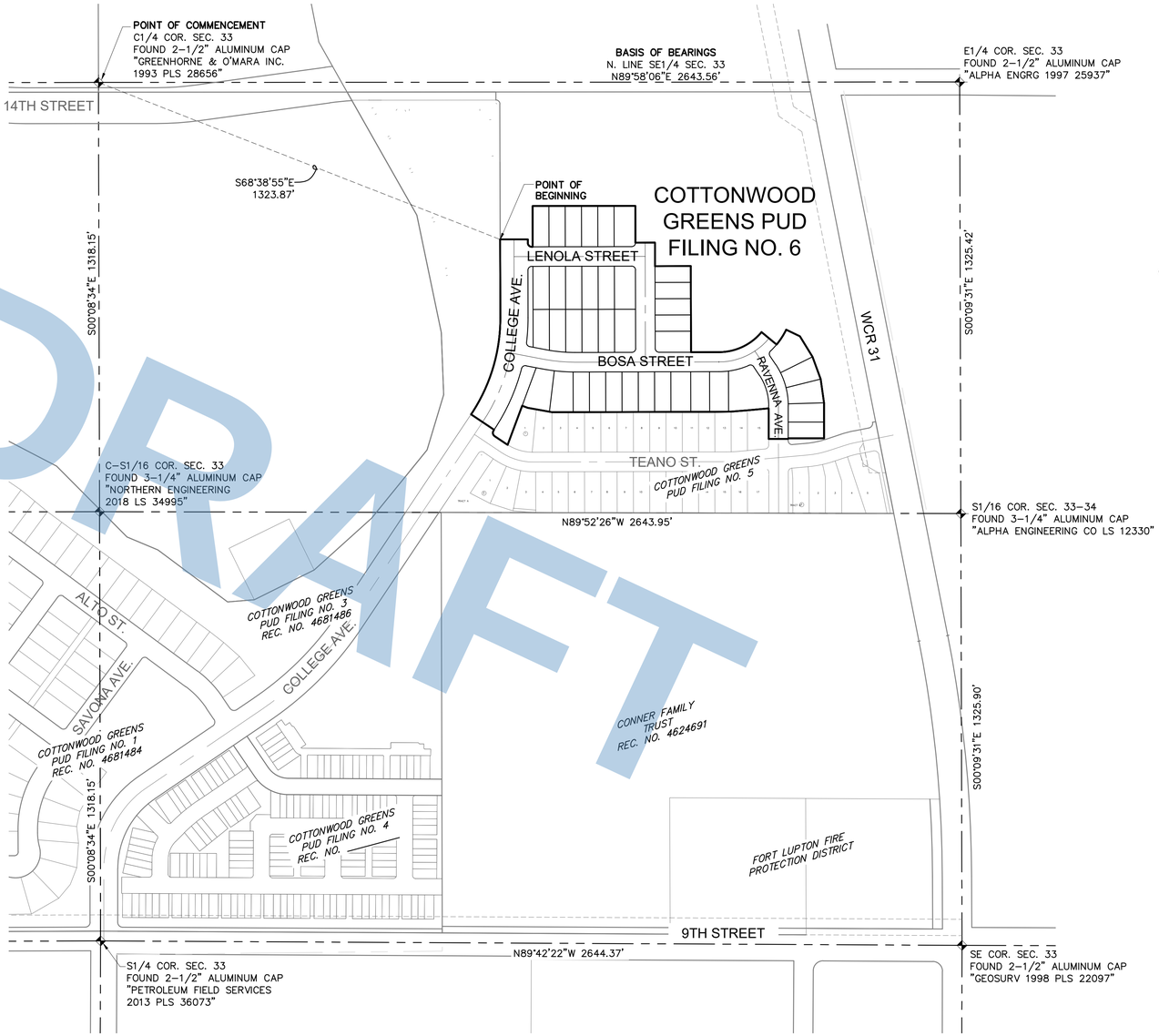
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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	10,531	0.24	UTILITIES, OPEN SPACE	METRO DISTRICT
B	3,958	0.09	UTILITIES, OPEN SPACE	METRO DISTRICT
	14,489	0.33		
LOTS (39)	276,524	6.34		
RIGHT-OF-WAY	151,601	3.48		
TOTAL	442,010	10.15		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 443,518 SQARE FEET, OR 10.18 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD POOL
PROFESSIONAL LAND SURVEYOR
38304

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 4

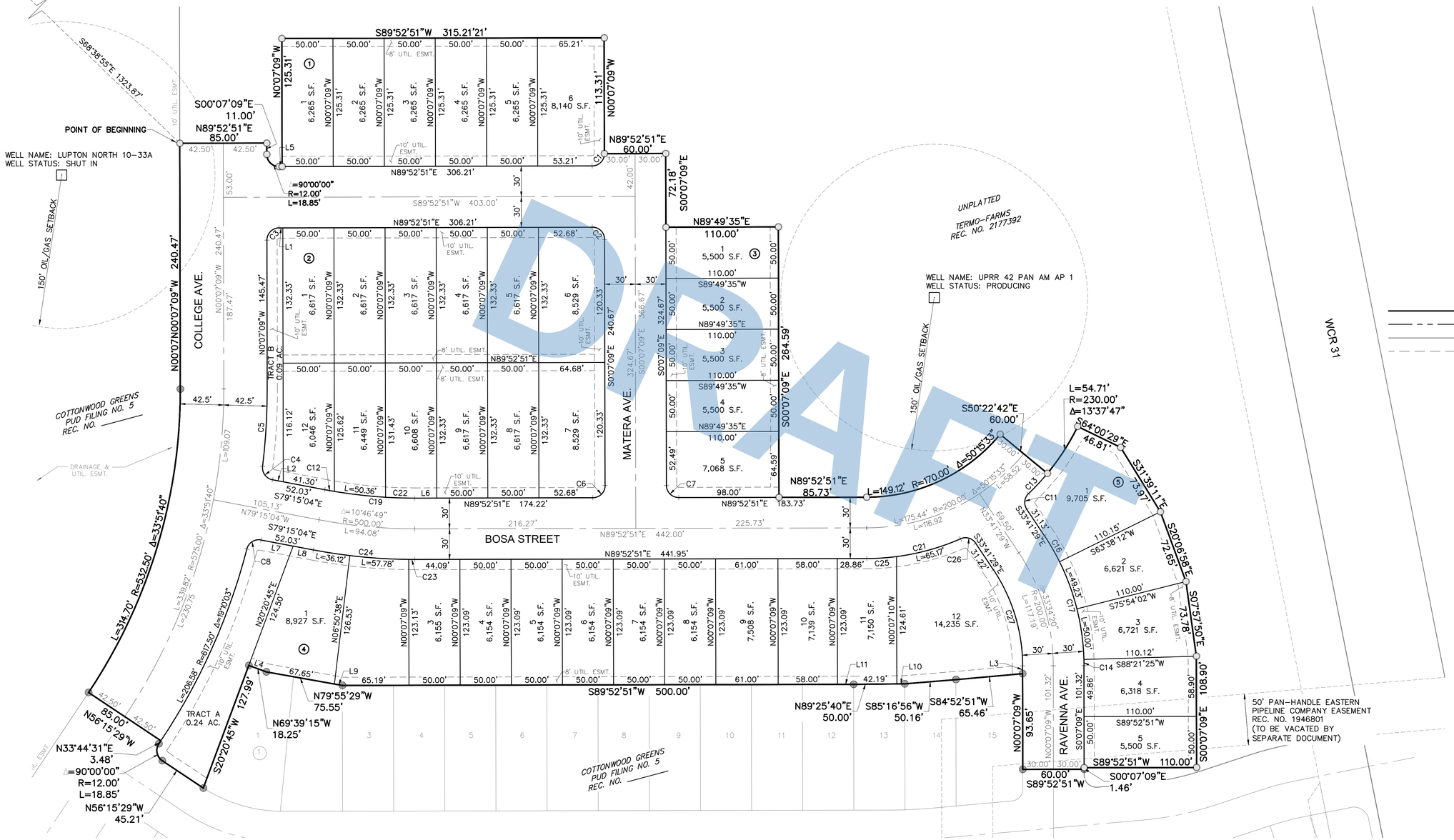
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DATE	02/02/2022
DRAWN BY	TWK
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD TROUT
38204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 4

FILE NO.	21002209 CC FLC 6
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N89°52'51"E	3.53'
L2	N79°15'04"W	10.73'
L3	S0°07'09"E	7.67'
L4	N69°39'15"W	18.25'
L5	S89°52'51"W	3.00'
L6	S89°52'51"W	21.54'
L7	N79°15'04"W	31.86'
L8	N79°15'04"W	20.17'
L9	N79°55'29"W	7.90'
L10	N89°25'40"E	7.81'
L11	N89°52'51"E	15.81'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	12.00'	18.85'
C2	90°00'00"	12.00'	18.85'
C3	90°00'00"	12.00'	18.85'
C4	86°10'28"	12.00'	18.05'
C5	7°02'32"	617.50'	75.90'
C6	90°00'00"	12.00'	18.85'
C7	90°00'00"	12.00'	18.85'
C8	86°10'28"	12.00'	18.05'
C11	80°04'13"	12.00'	16.77'
C12	1°10'11"	470.00'	9.59'
C13	6°45'26"	230.00'	27.13'
C14	1°31'26"	230.00'	6.12'
C16	7°19'40"	230.00'	29.42'
C17	33°34'20"	230.00'	134.77'
C19	10°46'49"	470.00'	88.43'
C21	23°30'47"	230.00'	94.39'
C22	3°28'17"	470.00'	28.48'
C23	0°38'17"	530.49'	5.91'
C24	10°46'49"	530.49'	99.81'
C25	7°16'45"	230.00'	29.22'
C26	79°56'27"	12.00'	16.74'
C27	33°34'20"	170.00'	99.61'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PRATT
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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OF 4

FILE NO.	21002209 CC FLE 6
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

14.45 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 88°37'23" EAST 1220.47 FEET TO THE NORTH LINE OF SAID THERMO–FARMS, ALSO BEING THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID NORTH LINE NORTH 89°58'06" EAST 965.96 FEET TO THE NORTHEAST CORNER OF SAID THERMO–FARMS, ALSO BEING THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY 31;

THENCE ALONG THE EASTERLY LINE OF SAID THERMO–FARMS AND ALONG SAID WESTERLY RIGHT–OF–WAY LINE SOUTH 11°09'18" EAST 1032.34 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING SAID EASTERLY LINE AND SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID NORTHERLY LINE THE FOLLOWING EIGHT (8) COURSES:

1. SOUTH 78°50'42" WEST 10.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AND A CENTER WHICH BEARS SOUTH 78°50'43" WEST;
2. 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59";
3. SOUTH 78°50'42" WEST 46.09 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 336.00 FEET;
4. 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31";
5. SOUTH 71°48'11" WEST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 264.00 FEET;
6. 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40";
7. SOUTH 84°52'51" WEST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
8. 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 6 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

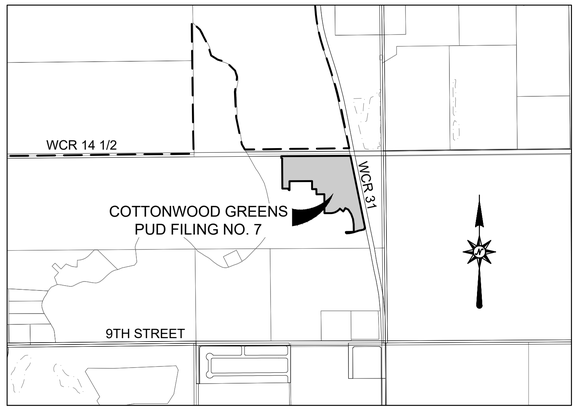
THENCE DEPARTING SAID NORTHERLY LINE AND ALONG THE EASTERLY AND NORTHERLY LINES OF SAID COTTONWOOD GREENS PUD FILING NO. 6 THE FOLLOWING TWENTY–TWO (22) COURSES:

1. NORTH 00°07'09" WEST 7.10 FEET;
2. NORTH 89°52'51" EAST 110.00 FEET;
3. NORTH 00°07'09" WEST 108.90 FEET;
4. NORTH 07°57'50" WEST 73.78 FEET;
5. NORTH 20°06'58" WEST 72.65 FEET;
6. NORTH 31°39'11" WEST 73.97 FEET;
7. NORTH 64°00'29" WEST 46.81 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 64°00'29" WEST;
8. 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";
9. NORTH 50°22'42" WEST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 170.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;
10. 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";
11. SOUTH 89°52'51" WEST 85.73 FEET;
12. NORTH 00°07'09" WEST 264.59 FEET;
13. SOUTH 89°49'35" WEST 110.00 FEET;
14. NORTH 00°07'09" WEST 72.18 FEET;
15. SOUTH 89°52'51" WEST 60.00 FEET;
16. NORTH 00°07'09" WEST 113.31 FEET;
17. SOUTH 89°52'51" WEST 315.21 FEET;
18. SOUTH 00°07'09" EAST 125.31 FEET;
19. SOUTH 89°52'51" WEST 3.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
20. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
21. NORTH 00°07'09" WEST 11.00 FEET;
22. SOUTH 89°52'51" WEST 85.00 FEET TO THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 6 AND ALONG SAID EASTERLY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 00°07'09" WEST 415.70 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;
2. 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45";
3. NORTH 00°01'47" WEST 25.00 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 629,556 SQUARE FEET, OR 14.45 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 7, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 7 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

FILE NO.	2100209 CC FLG 7
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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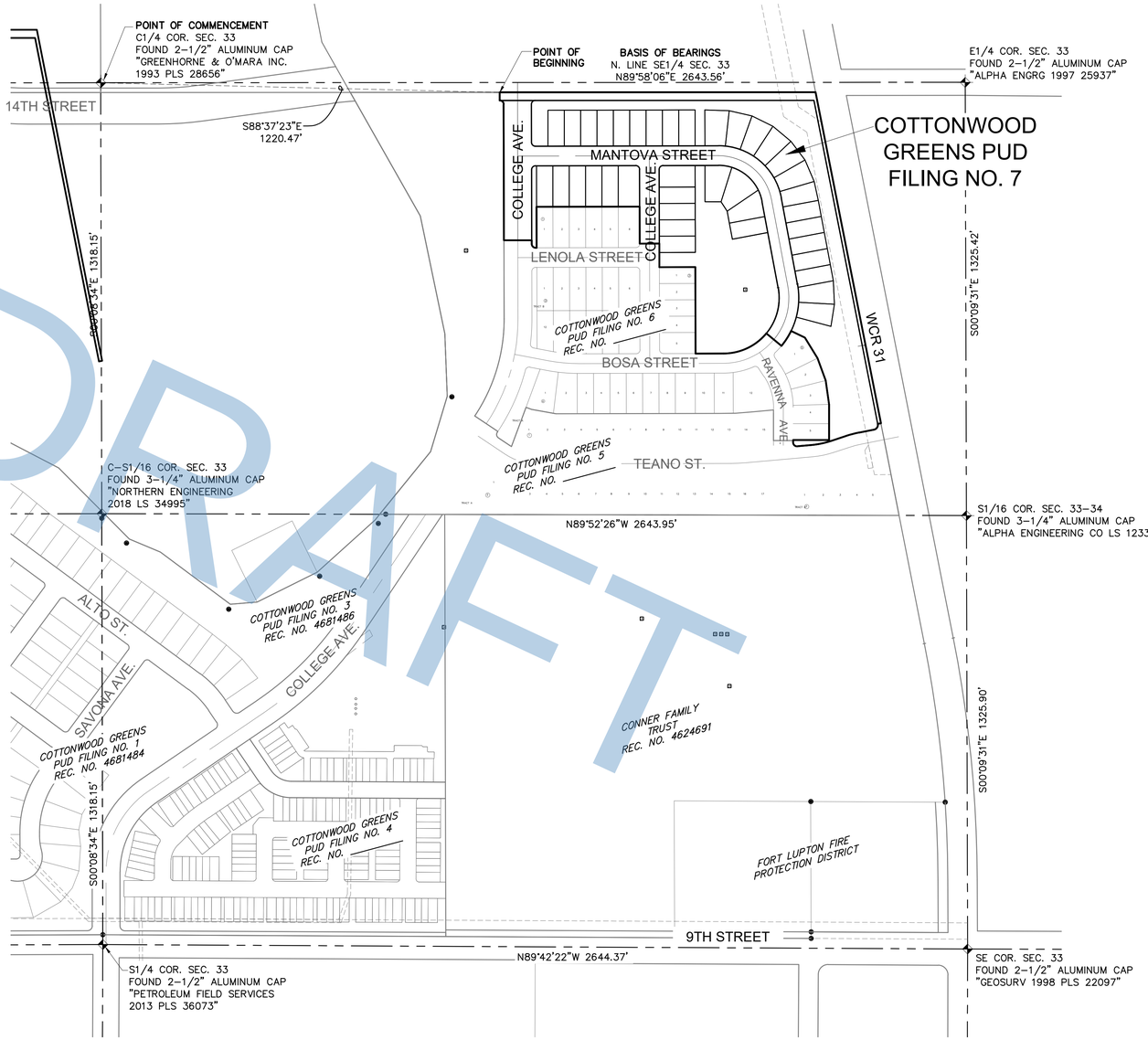
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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,697	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	133,498	3.06	UTILITIES, OPEN SPACE	METRO DISTRICT
C	101,697	2.33	UTILITIES, OPEN SPACE	METRO DISTRICT
D	34,289	0.79	RIGHT-OF-WAY	CITY OF FORT LUPTON
	273,181	6.26		
LOTS				
(38)	230,880	5.31		
RIGHT-OF-WAY	125,495	2.88	(159,784 S.F. 3.67 AC. INCL. TRACT D)	
TOTAL	629,556	14.45		



DRAFT

DEVELOPER/APPLICANT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
JIM RIGHEIMER
4040 MacARTHUR BLVD., #250
NEWPORT BEACH, CA 92660 (303) 905-3496

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 637,767 SQARE FEET, OR 14.64 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 4

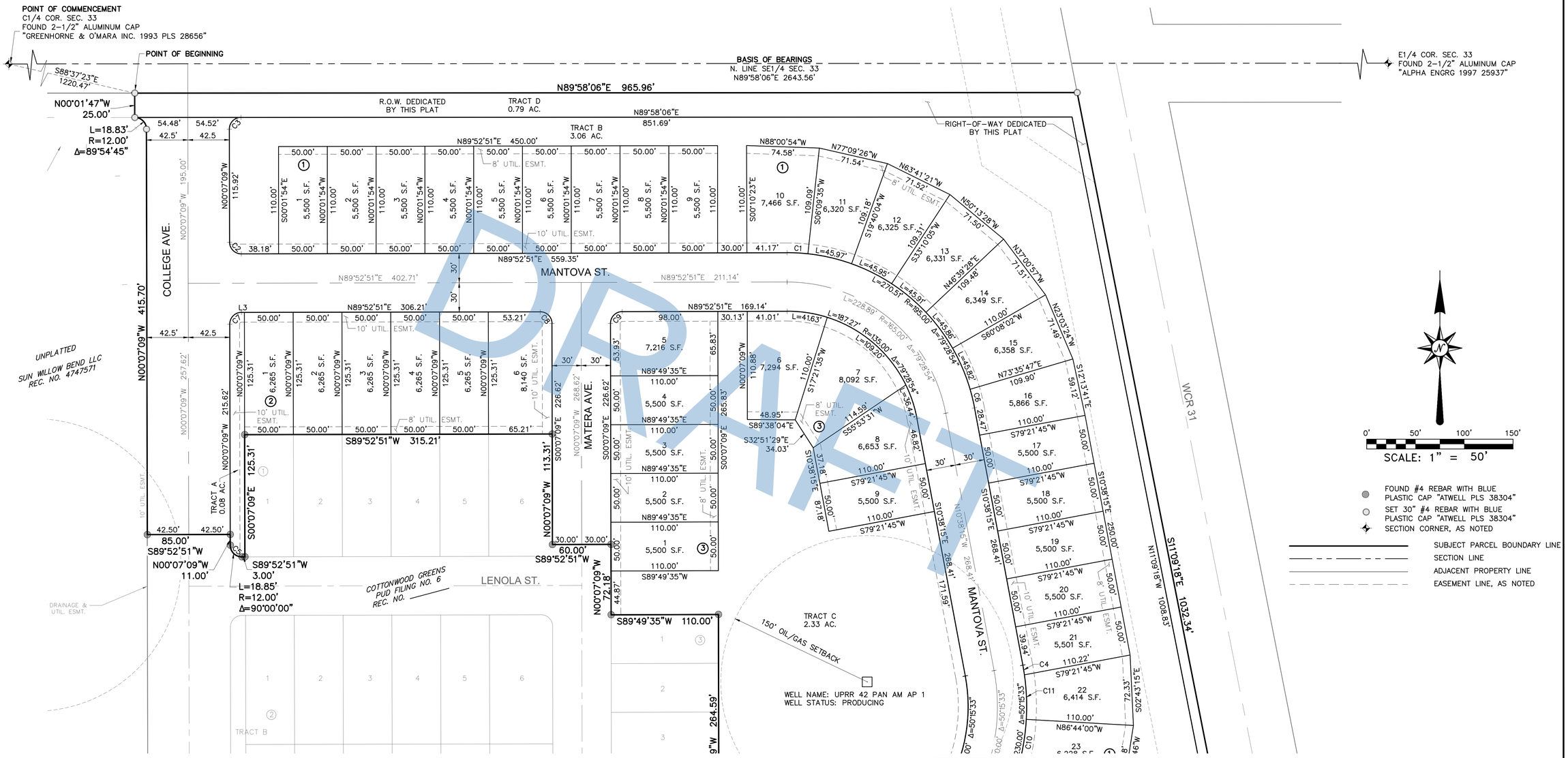
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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD CHILDS
38204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

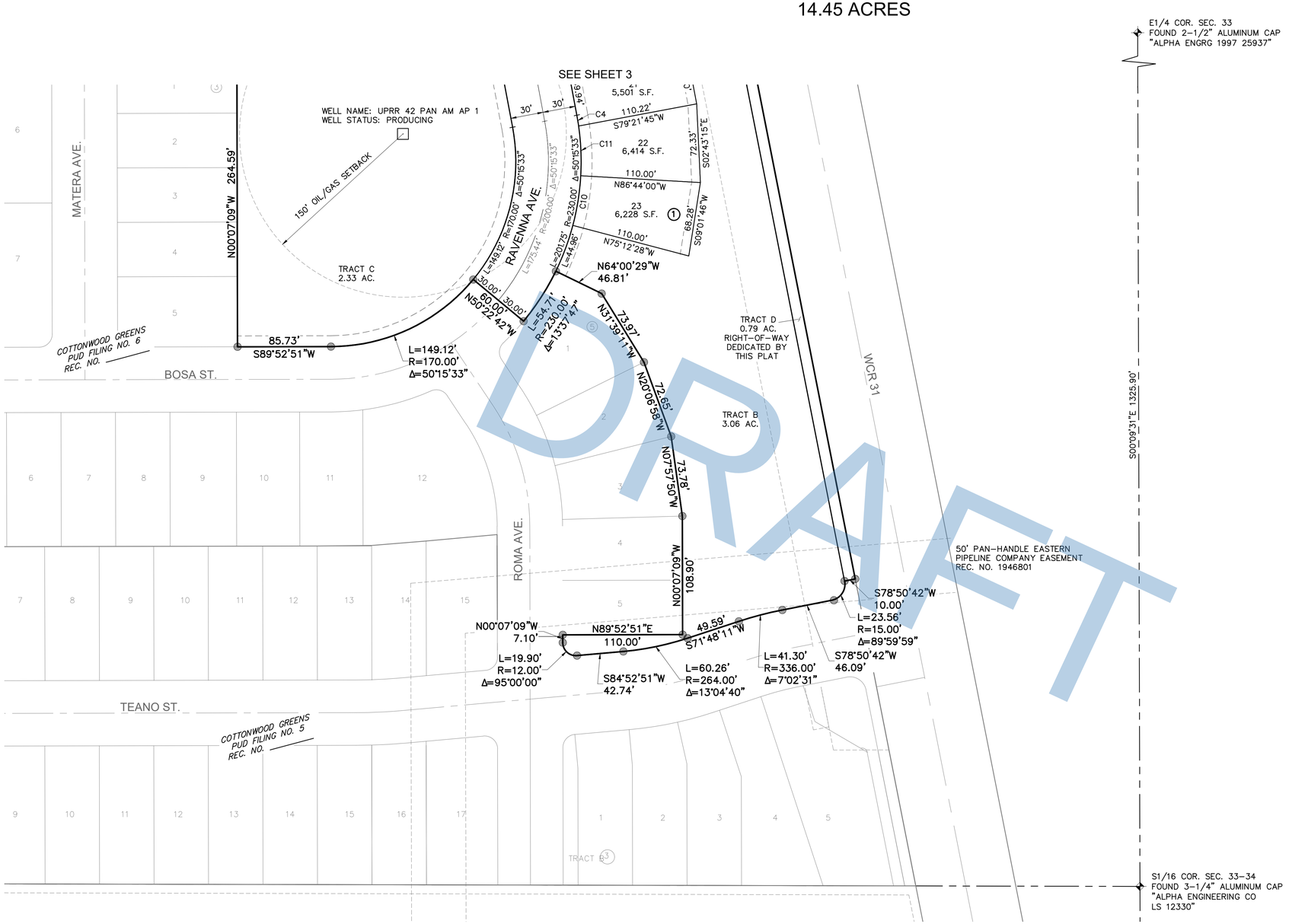
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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L3	N89°52'51"E	306.21'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	6°16'43"	195.00'	21.37'
C2	90°00'00"	12.00'	18.85'
C3	90°05'15"	12.00'	18.87'
C4	2°30'24"	230.00'	10.06'
C5	90°00'00"	12.00'	18.85'
C6	5°45'58"	195.00'	19.62'
C7	90°00'00"	12.00'	18.85'
C8	90°00'00"	12.00'	18.85'
C9	90°00'00"	12.00'	18.85'
C10	11°31'31"	230.00'	46.27'
C11	11°23'52"	230.00'	45.75'

0' 50' 100' 150'
SCALE: 1" = 50'

- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED
- SECTION CORNER, AS NOTED
- SECTION LINE
- SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD WING
38204
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
4
OF 4

FILE NO.	21002209 CC FLC 7
DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 38°32'50" EAST 1688.35 FEET TO THE NORTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTHEAST CORNER OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____ ____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTH LINE OF SAID CONNER FAMILY TRUST, AND ALONG THE SOUTH LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5 SOUTH 89°52'26" EAST 1065.75 FEET;

THENCE DEPARTING SAID NORTH AND SOUTH LINES SOUTH 00°07'09" EAST 123.08 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE SOUTH 00°07'09" EAST 10.00 FEET;

THENCE SOUTH 89°52'51" WEST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 88.00 FEET;

THENCE SOUTH 89°52'51" WEST 110.51 FEET;

THENCE SOUTH 00°07'09" EAST 105.00 FEET;

THENCE SOUTH 89°52'51" WEST 584.88 FEET;

THENCE SOUTH 00°07'09" EAST 383.92 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 3.84 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

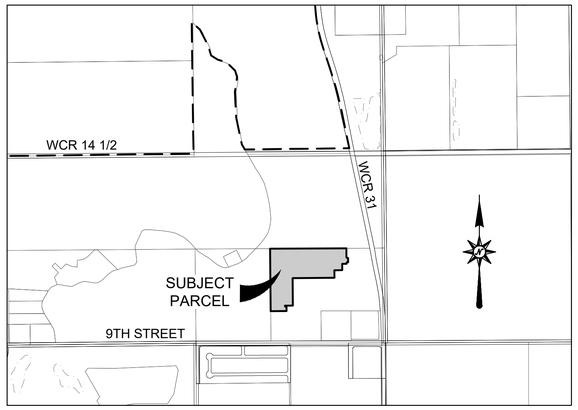
THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE NORTH 89°59'48" WEST 222.00 FEET TO THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG SAID EAST LINE NORTH 00°08'34" WEST 873.93 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 553,160 SQUARE FEET, OR 12.70 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 8, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 8 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

FILE NO.	21002209 CC FLG 8
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

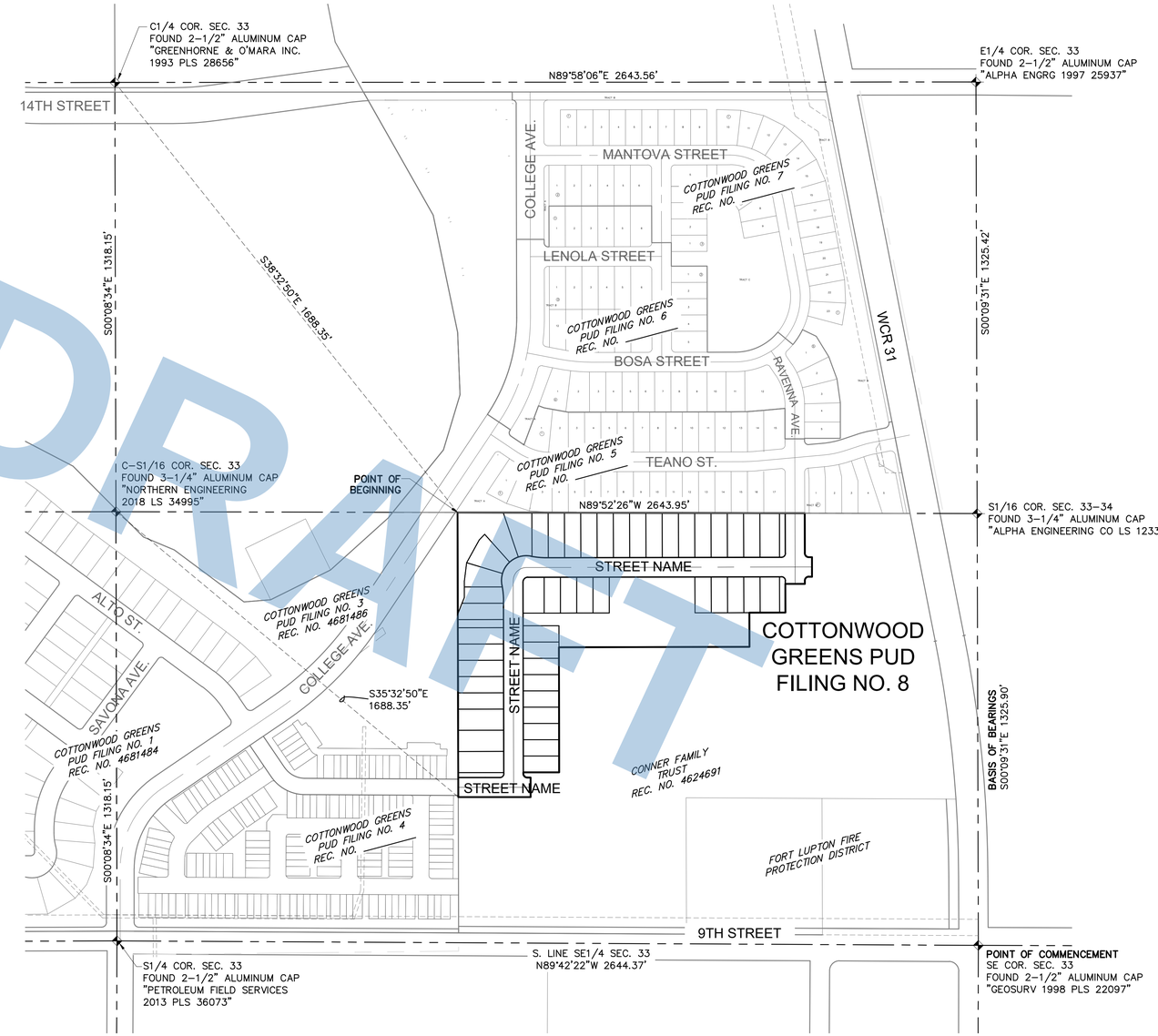
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COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,505	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	2,314	0.05	UTILITIES, OPEN SPACE	METRO DISTRICT
C	1,895	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
D	94,609	2.17	UTILITIES, OPEN SPACE	METRO DISTRICT
E	22,042	0.51	UTILITIES, OPEN SPACE	METRO DISTRICT
	124,365	2.85		
LOTS (47)	311,416	7.15		
RIGHT-OF-WAY	116,573	2.68		
TOTAL	552,354	12.68		



DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 553,160 SQARE FEET, OR 12.70 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING SOUTH 00°09'31" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 3

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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

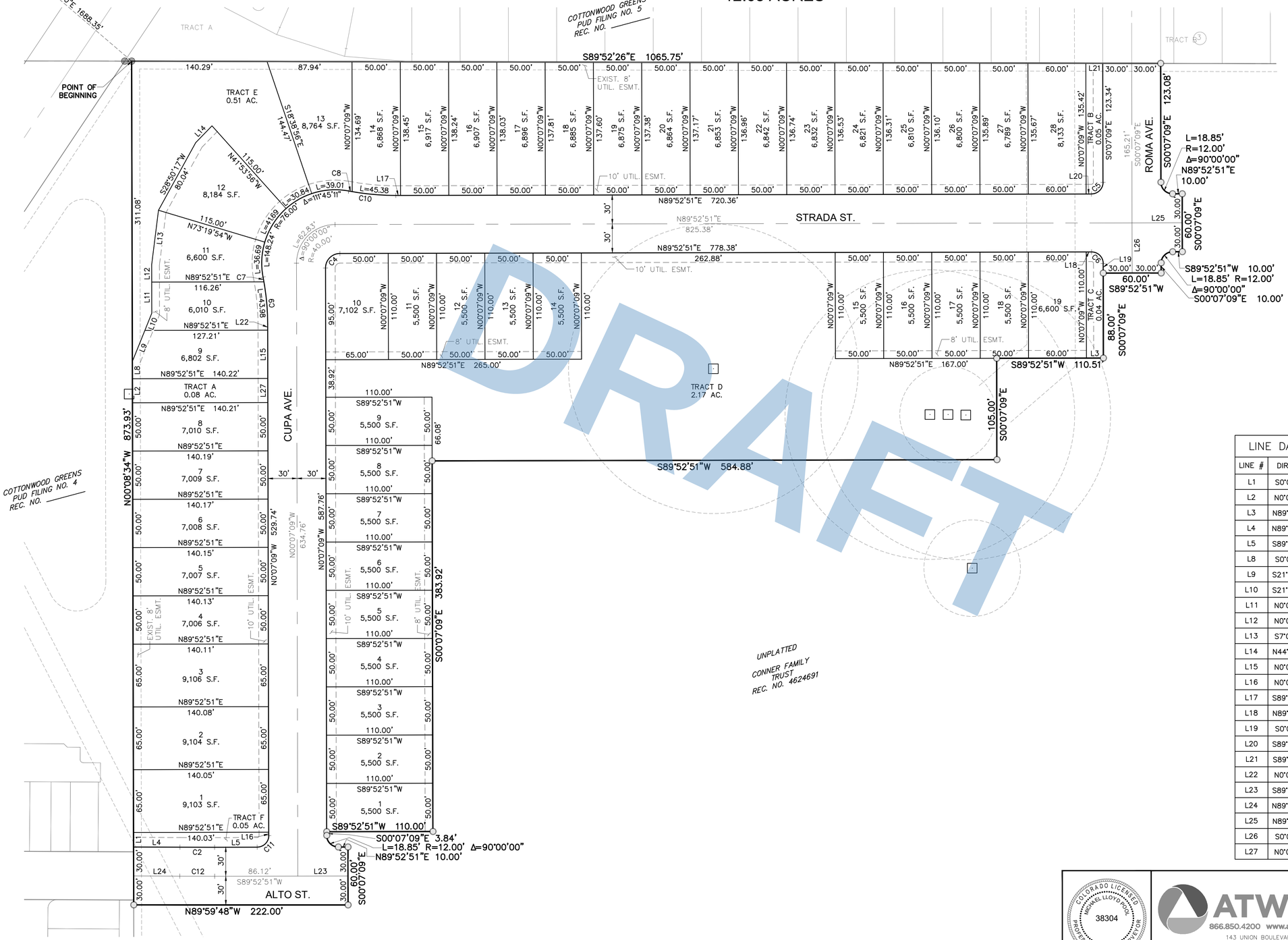
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COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S0°08'34"E	15.02'
L2	N0°08'34"W	25.00'
L3	N89°52'51"E	17.51'
L4	N89°42'22"W	48.07'
L5	S89°52'51"W	44.12'
L8	S0°08'34"E	17.82'
L9	S21°54'31"W	34.71'
L10	S21°54'31"W	19.22'
L11	N0°07'09"W	32.18'
L12	N0°07'09"W	17.82'
L13	S7°04'12"W	57.05'
L14	N44°14'16"E	24.10'
L15	N0°07'09"W	50.00'
L16	N0°07'09"W	3.50'
L17	S89°52'51"W	4.85'
L18	N89°52'51"E	5.51'
L19	S0°07'09"E	10.00'
L20	S89°52'51"W	5.51'
L21	S89°52'26"E	17.51'
L22	N0°07'09"W	6.24'
L23	S89°52'51"W	52.00'
L24	N89°42'22"W	47.84'
L25	N89°52'51"E	52.00'
L26	S0°07'09"E	52.00'
L27	N0°07'09"W	25.00'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C2	0°24'47"	4970.00'	35.84'
C4	90°00'00"	15.00'	23.56'
C5	90°00'00"	12.00'	18.85'
C6	90°00'00"	12.00'	18.85'
C7	1°06'37"	258.00'	5.00'
C8	0°47'55"	258.00'	3.60'
C9	10°52'36"	258.00'	48.98'
C10	10°52'36"	258.00'	48.98'
C11	90°00'00"	12.00'	18.85'
C12	0°24'47"	5000.00'	36.05'

COLORADO LICENSED
MICHAEL LLOYD PONTIOUS
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PROFESSIONAL LAND SURVEYOR

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REVISIONS

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COTTONWOOD GREENS PUD FILING NO. 9

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 67°07'51" EAST 1137.10 FEET TO THE WEST LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTHWEST CORNER OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°59'48" EAST 222.00 FEET;
2. NORTH 00°07'09" WEST 60.00 FEET;
3. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
4. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
5. NORTH 00°07'09" WEST 3.84 FEET;
6. NORTH 89°52'51" EAST 110.00 FEET;
7. NORTH 00°07'09" WEST 383.92 FEET;
8. NORTH 89°52'51" EAST 584.88 FEET;
9. NORTH 00°07'09" WEST 105.00 FEET;
10. NORTH 89°52'51" EAST 110.51 FEET;
11. NORTH 00°07'09" WEST 88.00 FEET;
12. NORTH 89°52'51" EAST 60.00 FEET;

THENCE DEPARTING SAID SOUTHERLY LINE SOUTH 00°07'09" EAST 222.76 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37";

THENCE SOUTH 60°12'00" EAST 27.33 FEET;

THENCE SOUTH 29°48'00" WEST 60.00 FEET;

THENCE NORTH 60°12'00" WEST 27.25 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04";

THENCE SOUTH 42°57'02" EAST 107.80 FEET;

THENCE SOUTH 00°17'38" WEST 40.73 FEET TO THE BOUNDARY LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS;

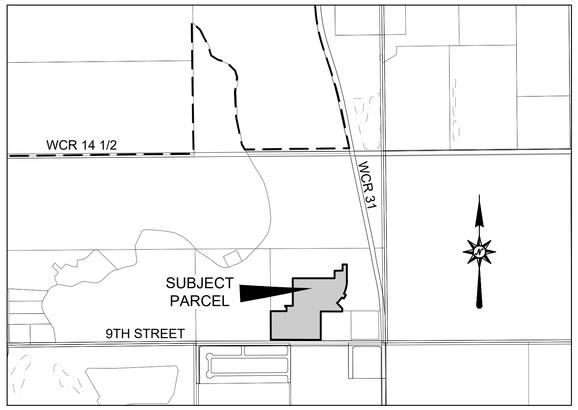
THENCE ALONG SAID BOUNDARY LINE AND ALONG THE NORTH AND WEST LINES OF SAID PARCEL OF LAND THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 301.01 FEET;
2. SOUTH 00°09'48" EAST 398.65 FEET TO THE SOUTH LINE OF SAID TRACT OF LAND;

THENCE ALONG SAID SOUTH LINE NORTH 89°42'22" WEST 699.60 FEET TO THE SOUTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG THE WEST LINE OF SAID CONNER FAMILY TRUST AND ALONG SAID EAST LINE NORTH 00°08'34" WEST 397.30 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 636,491 SQUARE FEET, OR 14.61 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 9, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 9 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 3

FILE NO.	21002209 CC FLG 9
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,464	1.00	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,812	0.64	UTILITIES, OPEN SPACE	METRO DISTRICT
C	29,137	0.67	UTILITIES, OPEN SPACE	METRO DISTRICT
D	136,710	3.14	UTILITIES, OPEN SPACE	METRO DISTRICT
E	1,091	0.03	UTILITIES, OPEN SPACE	METRO DISTRICT
	241,213	5.48		
LOTS (36)	245,482	5.69		
RIGHT-OF-WAY	149,796	3.44		
TOTAL	636,491	14.61		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

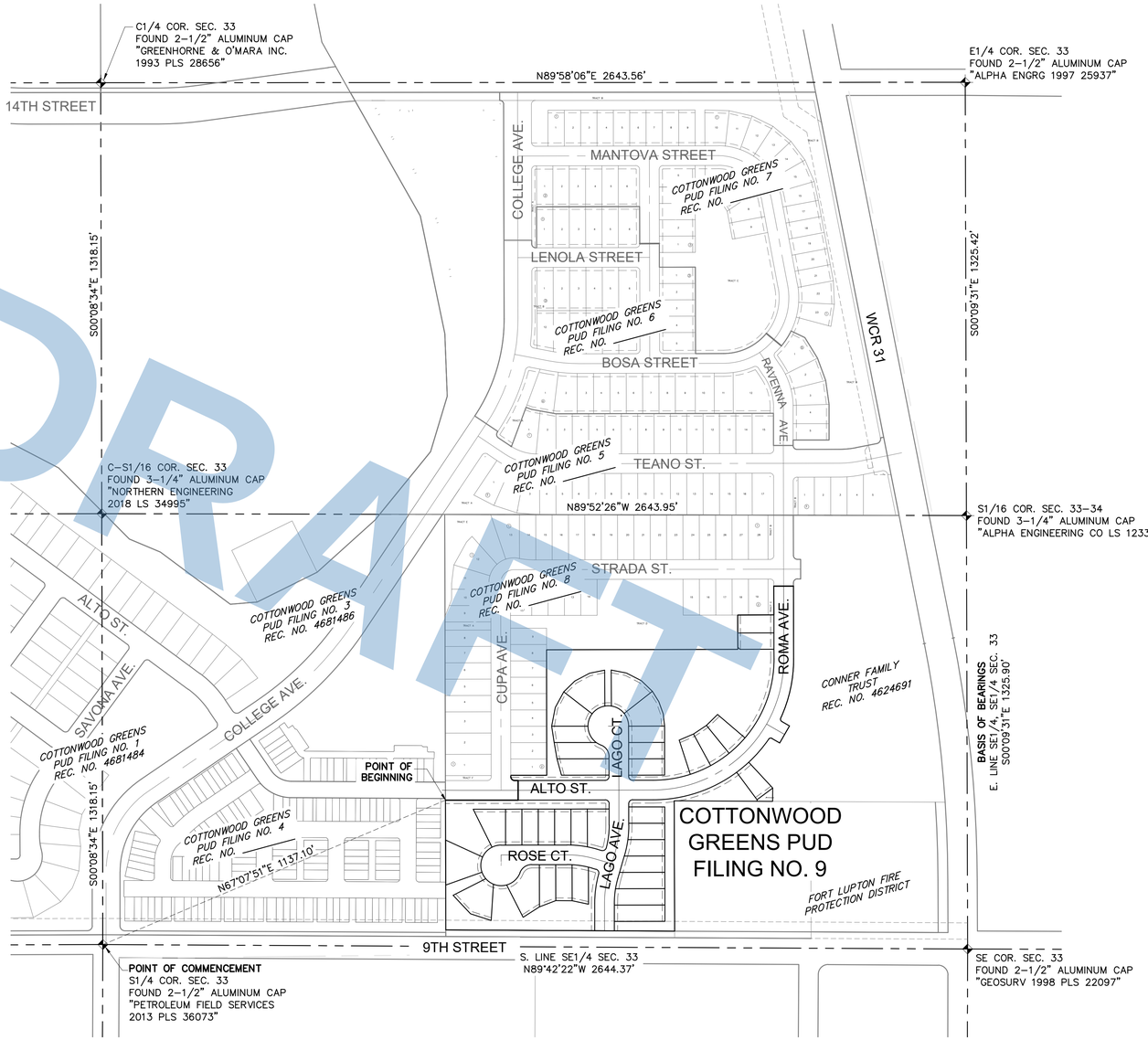
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

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REVISIONS

SHEET 2 OF 3

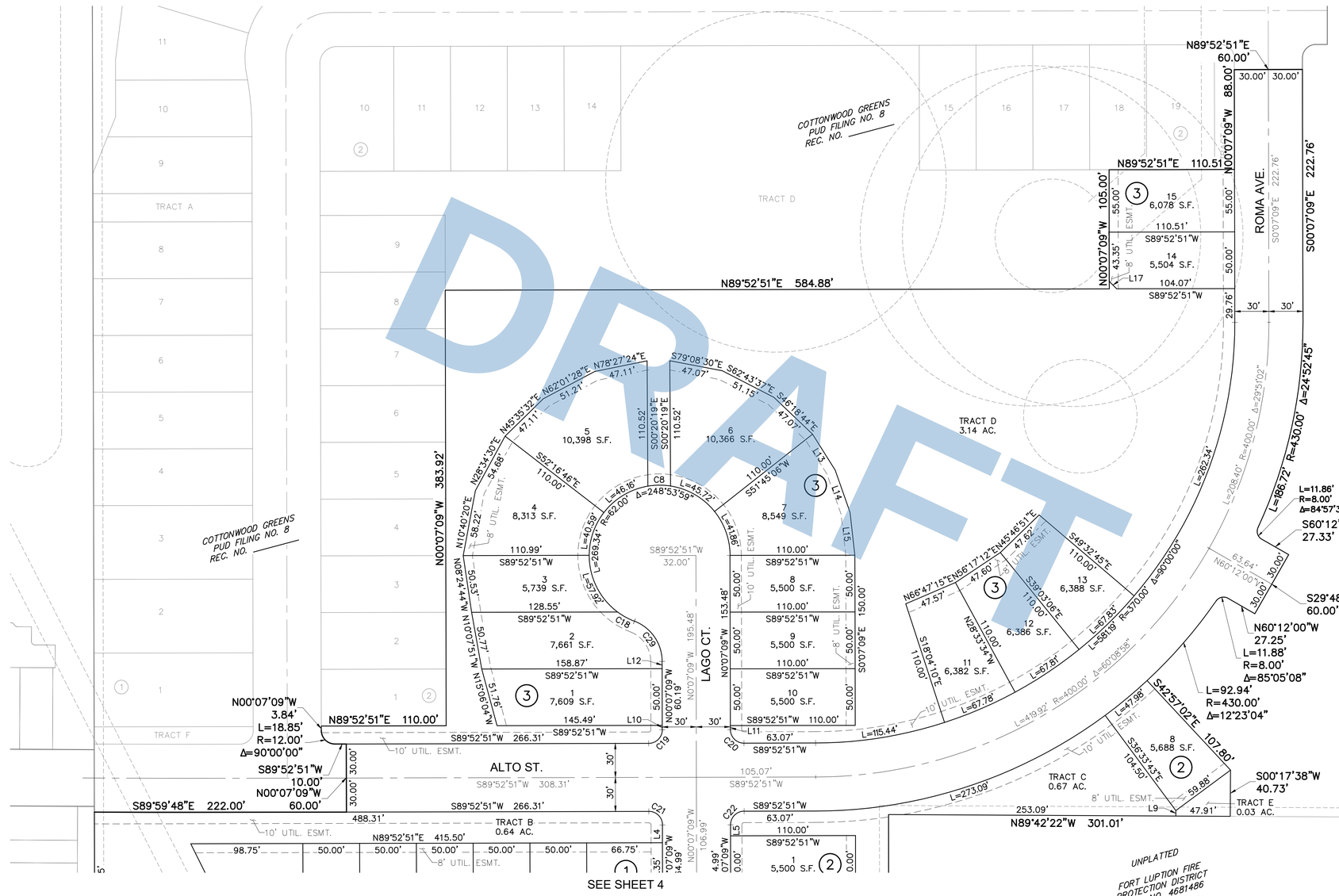
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JOB NO.	21002209

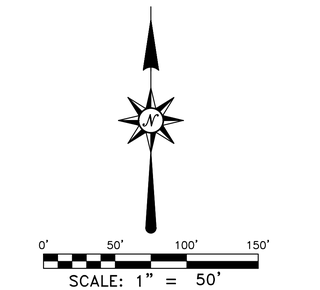
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





DRAFT

COLORADO LICENSED
MICHAEL LLOYD PAUL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 4

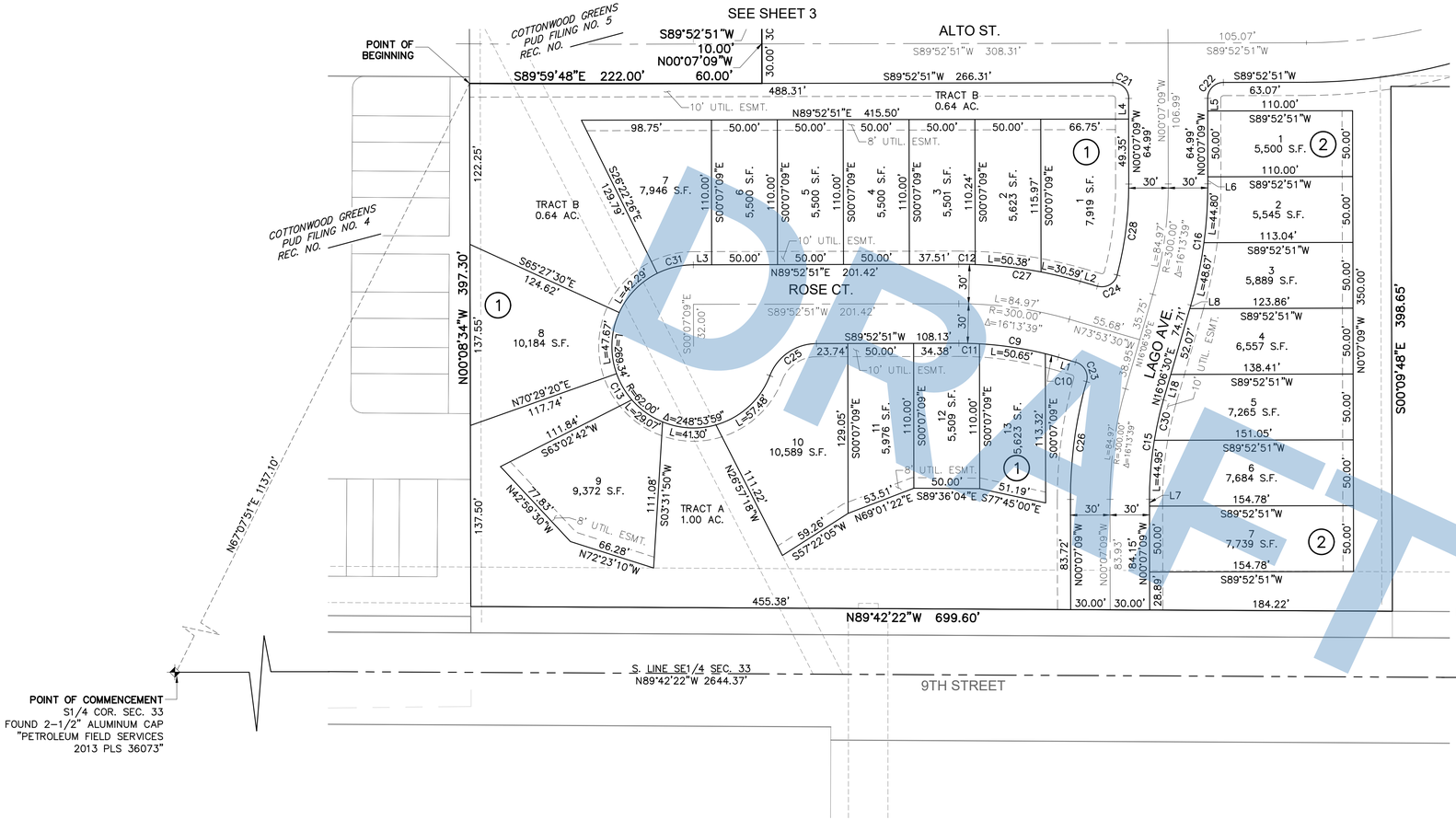
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DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

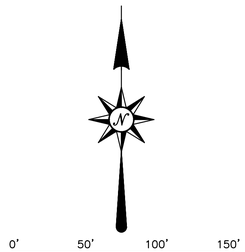
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N73°53'30"W	13.69'
L2	N73°53'30"W	13.60'
L3	S89°52'51"W	13.91'
L4	N0°07'09"W	15.64'
L5	S0°07'09"E	9.65'
L6	S0°07'09"E	5.34'
L7	N0°07'09"W	5.26'
L8	N16°06'30"E	2.54'
L9	S0°17'38"W	4.82'
L10	N0°07'09"W	3.84'
L11	N0°07'09"W	3.48'
L12	N0°07'09"W	6.35'
L13	N32°12'21"W	37.40'
L14	N19°23'50"W	39.34'
L15	N6°28'30"W	38.08'
L17	N44°09'34"W	9.25'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C8	18°33'49"	62.00'	20.09'
C9	16°13'39"	270.00'	76.47'
C10	2°09'45"	270.00'	10.19'
C11	3°18'56"	270.00'	15.62'
C12	2°10'09"	330.00'	12.49'
C13	21°20'53"	62.00'	23.10'
C15	16°13'39"	270.00'	76.47'
C16	16°13'39"	330.00'	93.46'
C18	15°42'19"	62.00'	16.99'
C19	90°00'00"	12.00'	18.85'
C20	90°00'00"	12.00'	18.85'
C21	90°00'00"	12.00'	18.85'
C22	90°00'00"	12.00'	18.85'
C23	89°29'22"	12.00'	18.74'
C24	91°23'15"	12.00'	19.14'
C25	68°53'59"	38.00'	45.70'
C26	15°43'01"	330.00'	90.52'
C27	16°13'39"	330.00'	93.46'
C28	14°50'25"	270.00'	69.93'
C29	68°53'59"	38.00'	45.70'
C30	6°41'21"	270.00'	31.52'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PEOU
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

FILE NO.	21002209 CC FLG 8
DATE	10/XX/2021
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 10

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33;

THENCE NORTH 08°41'56" WEST 454.22 FEET TO A CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 3220873, WELD COUNTY RECORDS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID CONNER FAMILY TRUST AND ALONG THE NORTH LINE OF SAID PARCEL OF LAND AND THEN ALONG THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS NORTH 89°42'22" WEST 527.55 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 9, RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTH LINES AND ALONG SAID EASTERLY LINE THE FOLLOWING TEN (10) COURSES:

1. NORTH 00°17'38" EAST 40.73 FEET;
2. NORTH 42°57'02" WEST 107.80 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET AND A CENTER WHICH BEARS NORTH 42°54'05" WEST;
3. 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
4. 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08";
5. SOUTH 60°12'00" EAST 27.25 FEET;
6. NORTH 29°48'00" EAST 60.00 FEET;
7. NORTH 60°12'00" WEST 27.33 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
8. 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET;
9. 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45"
10. NORTH 00°07'09" WEST 222.76 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 9 AND ALONG THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING SEVEN (7) COURSES:

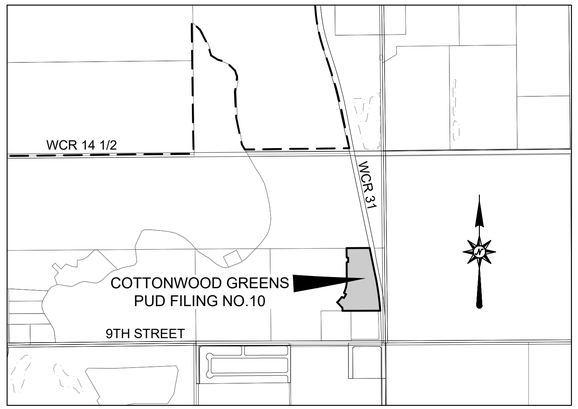
1. NORTH 00°07'09" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
2. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. NORTH 89°52'51" EAST 10.00 FEET;
4. NORTH 00°07'09" WEST 60.00 FEET;
5. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
7. NORTH 00°07'09" WEST 123.08 FEET TO THE NORTH LINE OF SAID TRACT OF LAND, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE ALONG SAID NORTH AND SOUTH LINES SOUTH 89°52'26" EAST 323.53 FEET TO THE EASTERLY LINE OF SAID TRACT OF LAND, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31;

THENCE ALONG SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°10'31" EAST 399.80 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08" TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 374,010 SQUARE FEET, OR 8.59 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 10, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 10 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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OF 4

FILE NO.	21002209 CC FIG 10
DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

K:\21002209\DWG\Survey\FIG 10\21002209_CC FIG 10 FINAL PLAT.dwg, PLAT COVER, 2/2/2022 8:33:17 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	42,431	0.97	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,814	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	37,154	0.85	UTILITIES, OPEN SPACE	METRO DISTRICT
D	2,496	0.06	UTILITIES, OPEN SPACE	METRO DISTRICT
E	8,894	0.20	UTILITIES, OPEN SPACE	METRO DISTRICT
	92,728	2.12		
LOTS (34)	211,090	4.85		
RIGHT-OF-WAY	60,754	1.39		
TOTAL	374,010	8.59		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

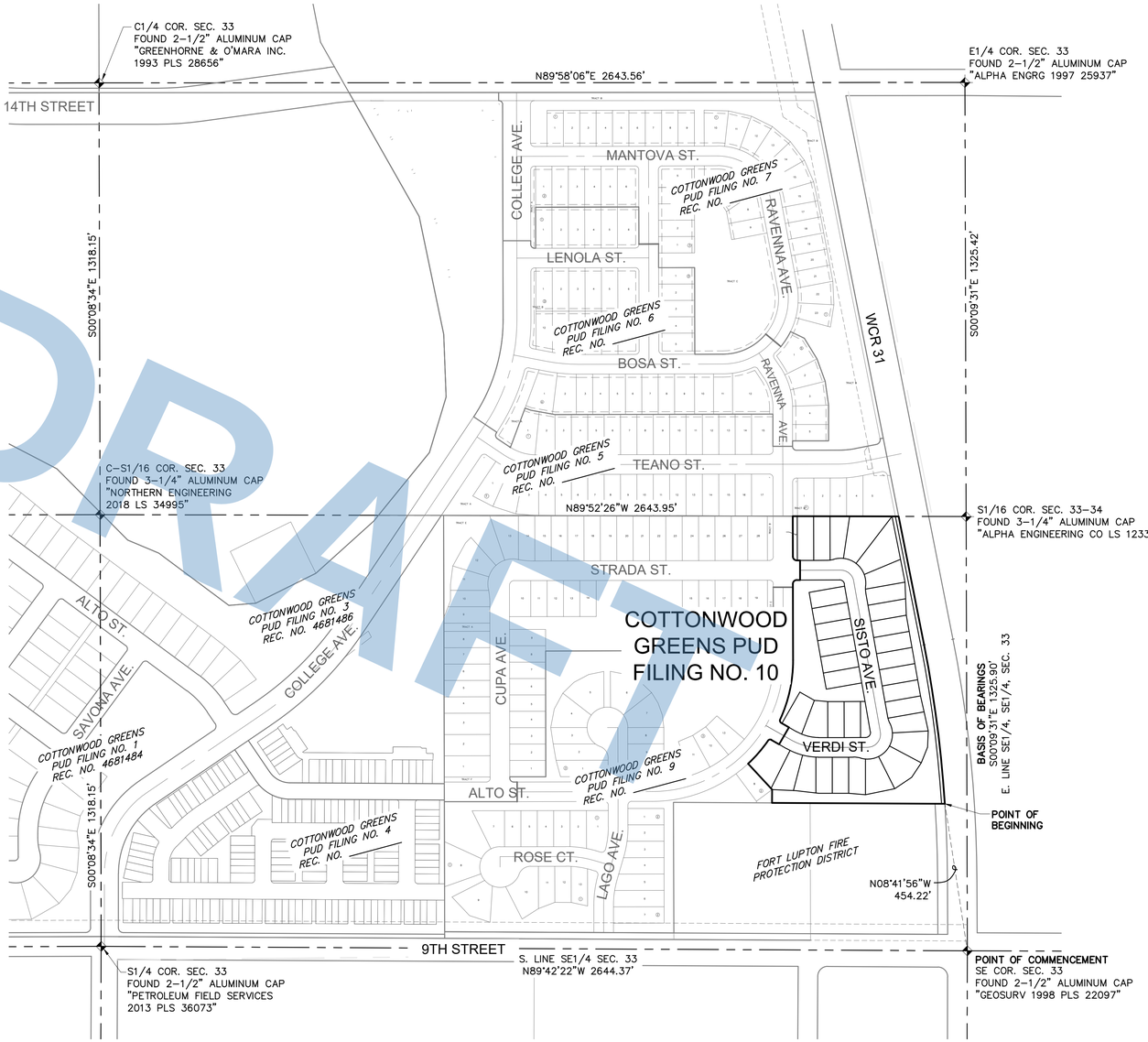
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
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PROFESSIONAL LAND SURVEYOR

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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 4

FILE NO.	21002209 CG FIG 10
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

DRAFT

K:\21002209\SHW\SurveyFIGS 10\21002209_CG FIG 10 FINAL PLAT.dwg, SHT 2, 2/2/2022 8:33:19 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S42°57'02"E	5.02'
L2	N29°48'00"E	30.00'
L3	S60°12'00"E	2.84'
L4	N29°48'00"E	30.00'
L5	S83°30'10"E	8.88'
L6	S89°52'51"W	15.07'
L7	S89°52'51"W	13.77'
L8	N9°59'24"W	6.51'
L9	N89°52'51"E	1.66'
L10	N89°52'26"W	13.66'
L11	N89°52'26"W	10.20'
L12	N89°52'26"W	10.20'
L13	S89°52'51"W	15.03'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	3°08'57"	194.99'	10.72'
C2	7°05'22"	134.59'	16.65'
C3	99°52'15"	15.00'	26.15'
C4	80°07'45"	15.00'	20.98'
C5	16°02'46"	78.00'	21.84'
C6	11°18'17"	76.00'	15.00'
C7	7°14'33"	78.00'	9.86'
C8	8°48'13"	78.00'	11.98'
C9	22°03'43"	76.00'	29.26'
C10	7°21'55"	78.00'	10.03'
C11	8°40'51"	78.00'	11.82'
C12	3°52'00"	78.00'	5.26'
C13	12°10'46"	78.00'	16.58'
C14	16°02'46"	78.00'	21.84'
C15	16°02'46"	78.00'	21.84'
C16	16°02'46"	78.00'	21.84'
C17	29°30'16"	134.59'	69.31'
C18	2°16'51"	194.99'	7.76'
C19	29°34'11"	194.99'	100.63'

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR

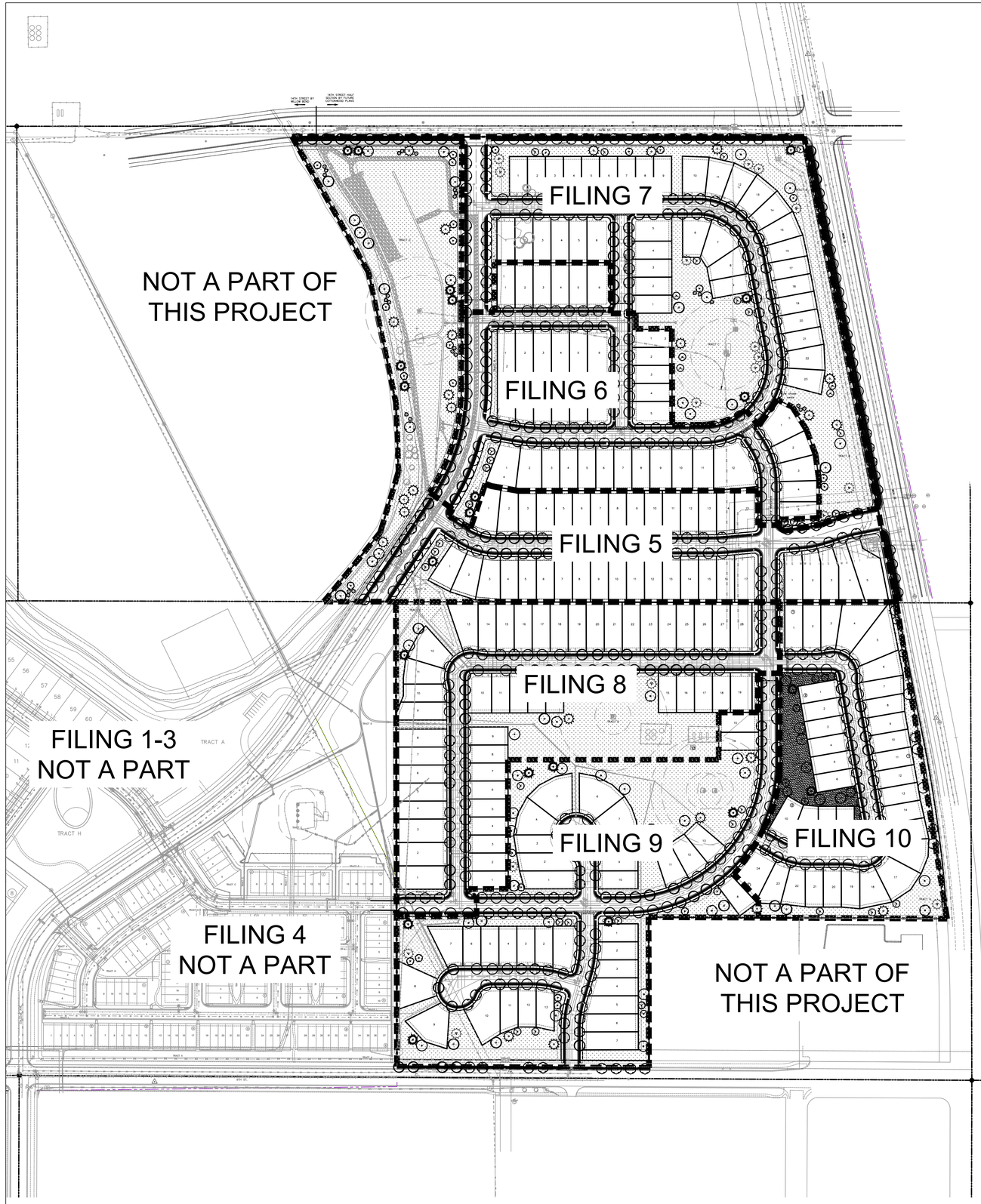
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866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

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3
OF 3

FILE NO.	21002209 05 R16 10
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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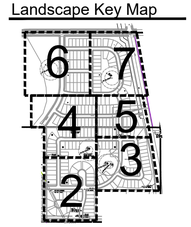
OVERALL PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	REMARKS
	96	Celtis occidentalis Western Hackberry	2.0" cal. BB	60`	40`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust	2.0" cal. BB	50`	30`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree	2.0" cal. BB	60`	40`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	21	Populus deltoides monilifera Plains Cottonwood	2.0" cal. BB	80`	50`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	26	Populus x acuminata Lanceleaf Cottonwood	2.0" cal. BB	60`	40`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	92	Quercus buckleyi Texas Red Oak	2.0" cal. BB	40`	30`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	90	Quercus macrocarpa Burr Oak	2.0" cal. BB	80`	70`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	89	Tilia americana `Redmond` Redmond American Linden	2.0" cal. BB	50`	40`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	28	Ulmus x `Accolade` Accolade Elm	2.0" cal. BB	60`	40`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	REMARKS
	26	Juniperus scopulorum Rocky Mountain Juniper	6`, BB	30`	12`	FULL SPECIMEN, EVENLY AND WELL BRANCHED
	21	Picea pungens Colorado Spruce	6`, BB	50`	30`	FULL SPECIMEN, EVENLY AND WELL BRANCHED
	30	Pinus ponderosa Ponderosa Pine	6`, BB	80`	40`	FULL SPECIMEN, EVENLY AND WELL BRANCHED
	20	Pinus strobiformis Southwestern White Pine	6`, BB	50`	30`	FULL SPECIMEN, EVENLY AND WELL BRANCHED
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	REMARKS
	24	Acer glabrum Rocky Mountain Maple	1.5" cal. BB	20`	15`	WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	9	Amelanchier x grandiflora `Autumn Brilliance` `Autumn Brilliance` Serviceberry	1.5" cal. BB	25`	20`	WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	11	Malus x `Spring Snow` Spring Snow Crab Apple	1.5" cal. BB	25`	20`	WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	29	Pyrus calleryana `Chanticleer` Chanticleer Pear	1.5" cal. BB	35`	25`	WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE			
	189,383 sf	DURA-TURF SOD	sod			IRRIGATED TURF OR APPROVED EQUAL
	931,387 sf	NATIVE GRASS	seed			NON-IRRIGATED NATIVE FOOTHILLS GRASS MIX - ARKANSAS SEED MIX OR APPROVED EQUAL

0 150' 225' 300'

SCALE 1" = 150'-0"

Landscape Key Map



Sheet Index:

OVERALL LANDSCAPE & PLANT SCHEDULE	1
LANDSCAPE PLAN	2
LANDSCAPE PLAN	3
LANDSCAPE PLAN	4
LANDSCAPE PLAN	5
LANDSCAPE PLAN	6
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TB GROUP
landscape architecture | planning | illustration

444 Mountain Ave.
Berthoud,CO 80513

TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

FINAL PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

ARBOR CAPITAL PARTNERS LLC
4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

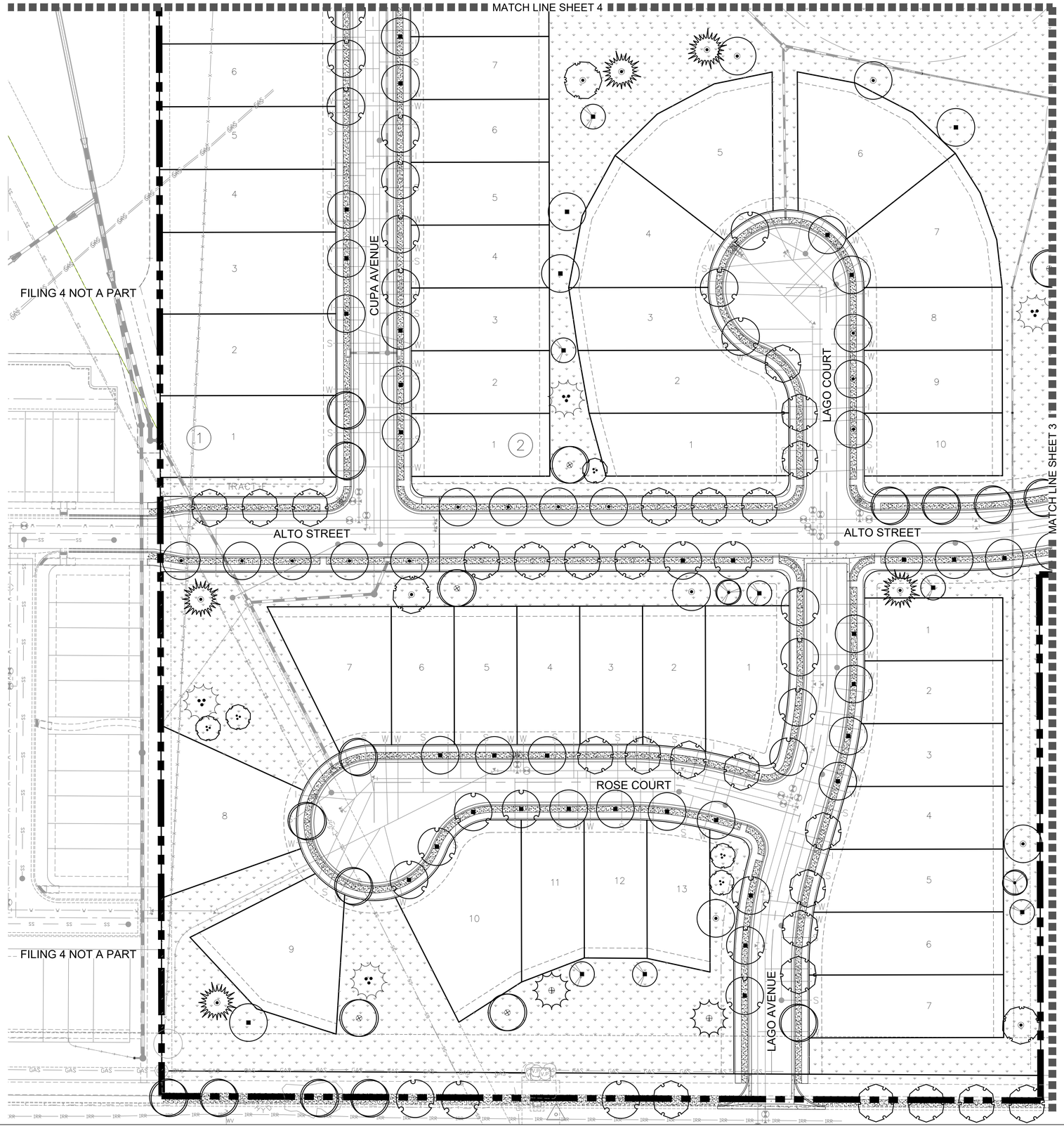
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Overall Landscape & Plant Schedule

SHEET INFORMATION

Sheet Number: 1

Of: 8



PLANT SCHEDULE

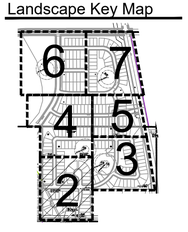
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	931,387 sf	NATIVE GRASS

NORTH

0 40' 60' 80'

SCALE 1" = 40'-0"

Landscape Key Map



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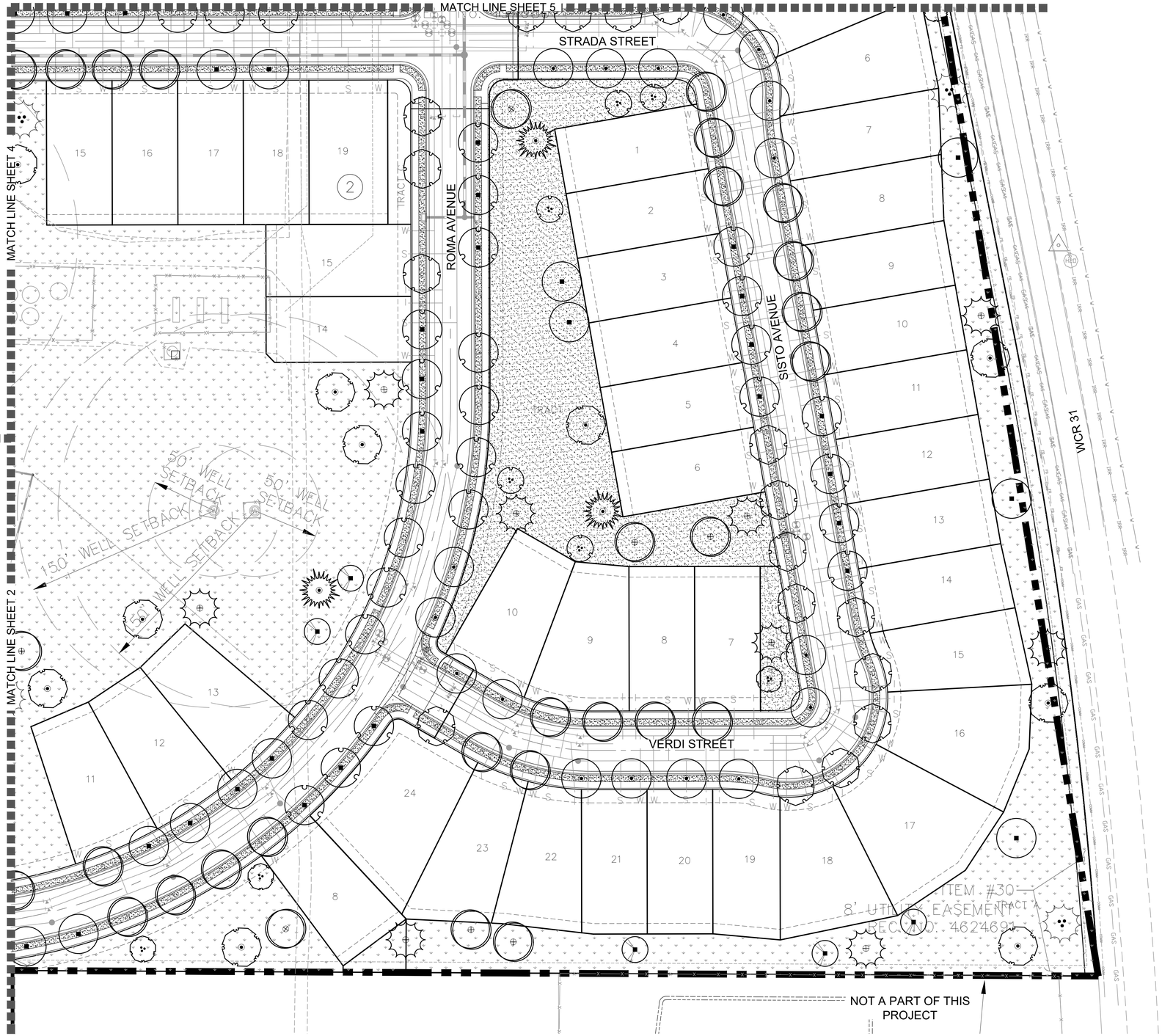
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LANDSCAPE PLAN

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Of: 8



PLANT SCHEDULE

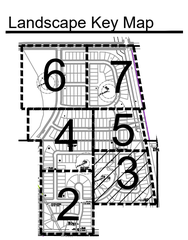
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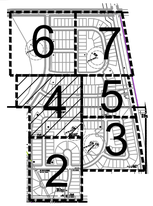
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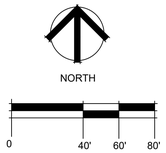
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Landscape Key Map





SCALE 1" = 40'-0"

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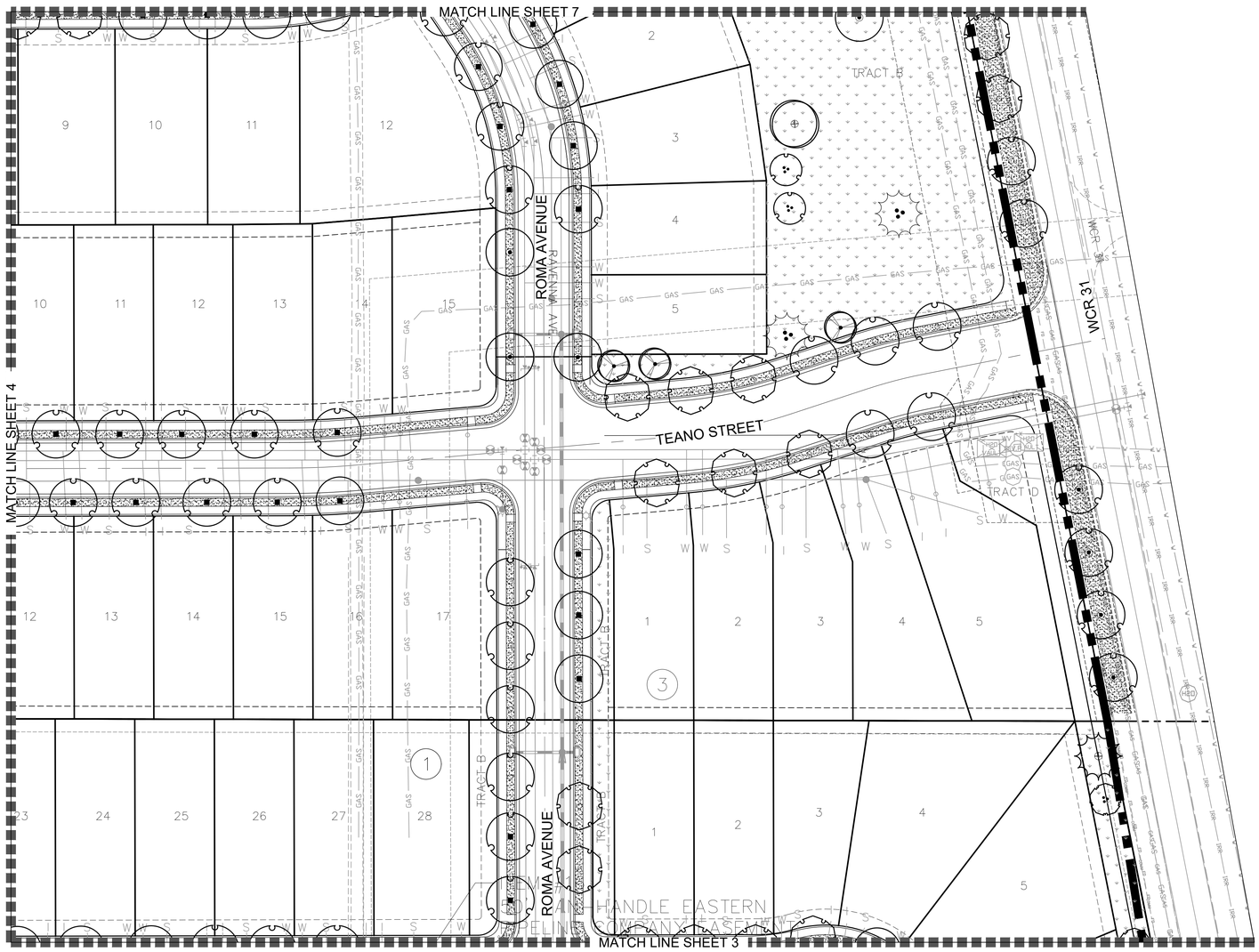
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PLANT SCHEDULE

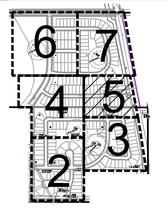
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Landscape Key Map



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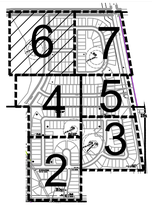
LANDSCAPE PLAN

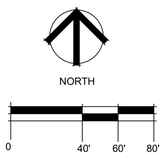
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Landscape Key Map

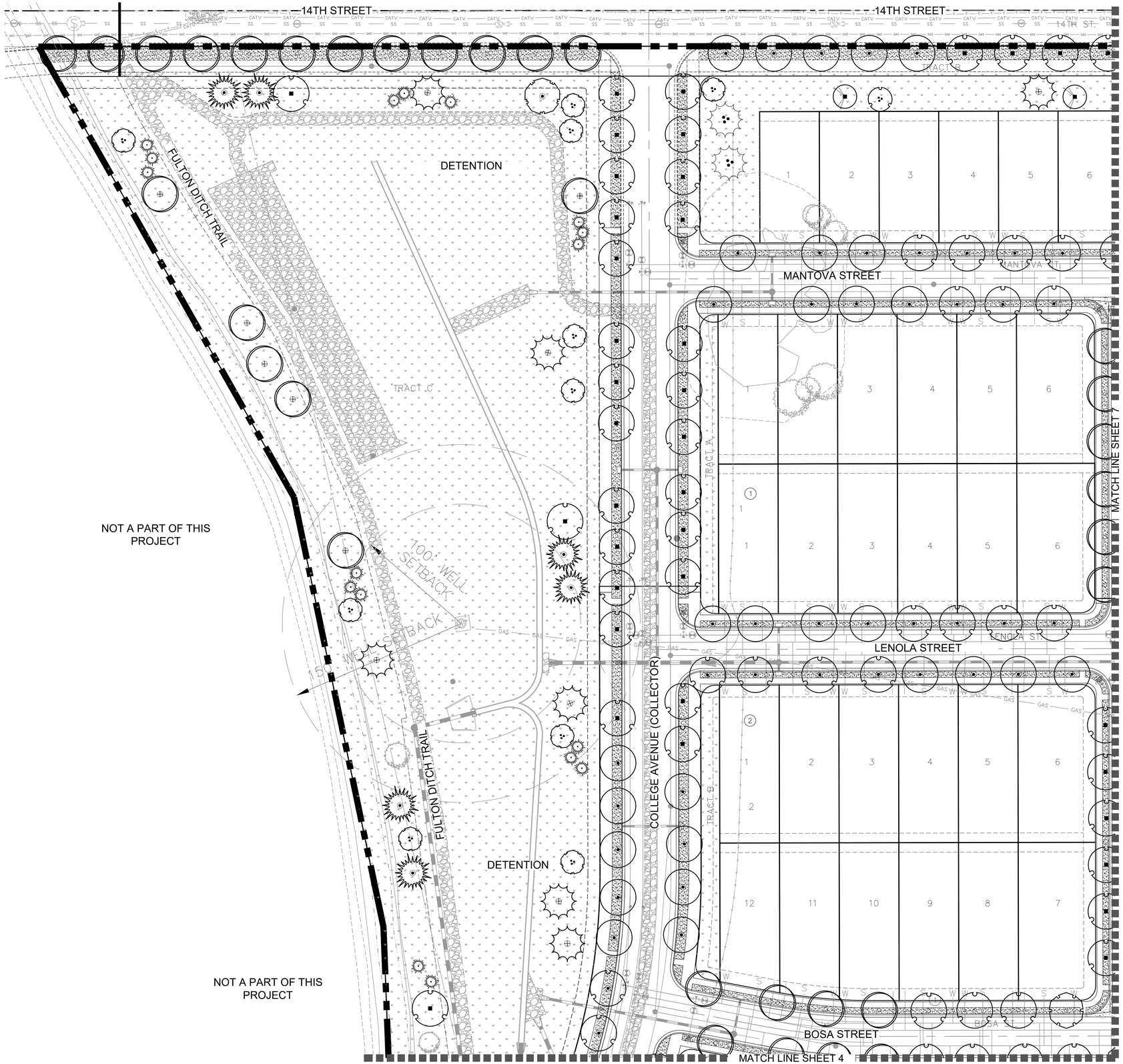




SCALE 1" = 40'-0"

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SEAL

PROJECT TITLE

COTTONWOOD GREENS

FINAL PLAT

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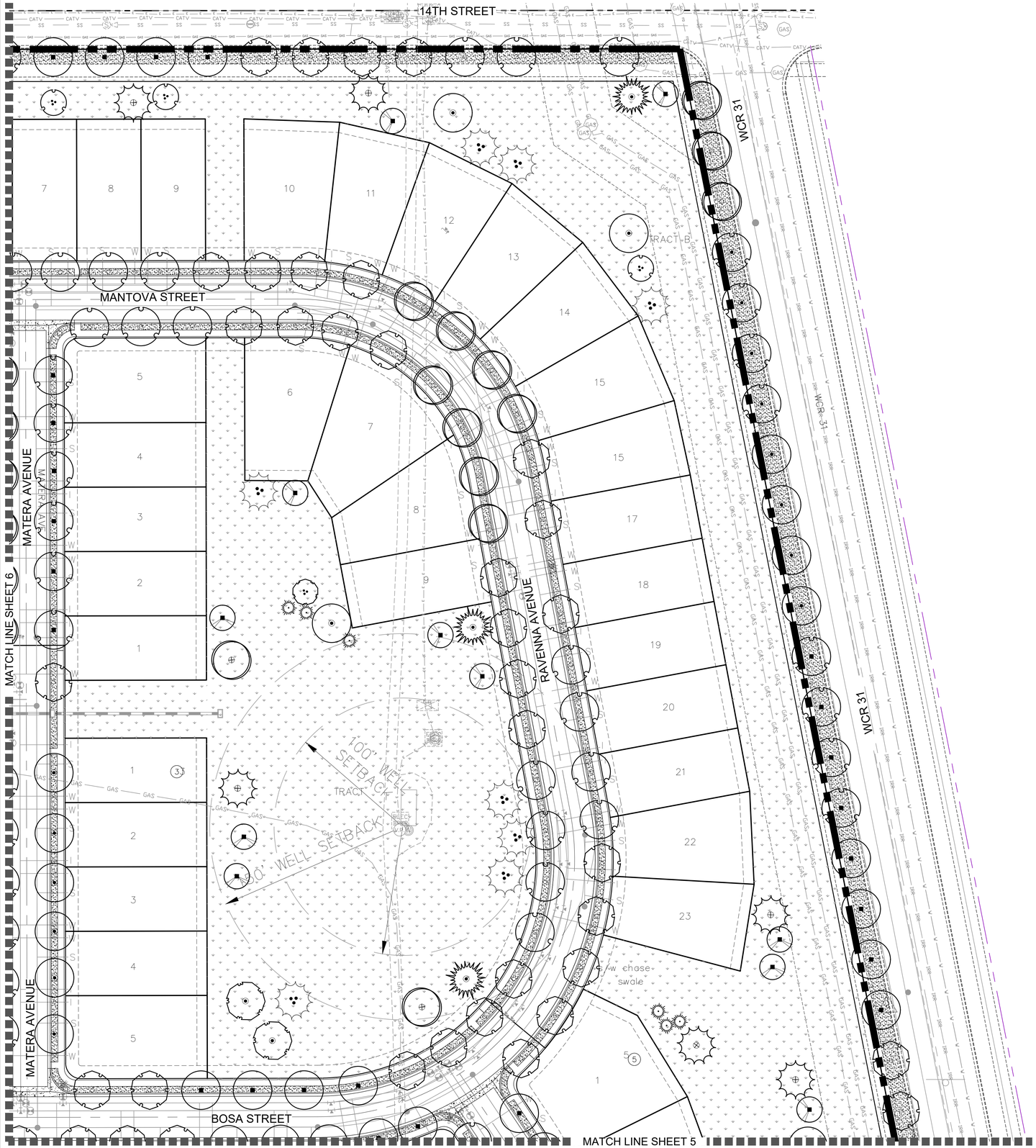
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LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 6

Of: 8



PLANT SCHEDULE

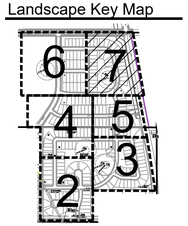
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LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 7

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Landscape Notes

1. LANDSCAPE AREAS SHALL BE MAINTAINED, INCLUDING MOWING, WATERING AND FERTILIZING BY CONTRACTOR, UP TO FINAL ACCEPTANCE. AT SUCH TIME OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE. LANDSCAPE AND IRRIGATION WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE.
2. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
5. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.1 - NO TREES OR SHRUBS SHALL BE PLANTED WITHIN 10' FROM WATER AND SEWER LINES, 4' FROM GAS, TELEPHONE AND ELECTRIC UTILITY LINES.
6. NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, POTABLE WATER, SANITARY SEWER, STORM SEWER, OR NON-POTABLE IRRIGATION MAINS.
7. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
8. TREES SHALL BE LIMBED TO A HEIGHT OF NOT LESS THAN EIGHT (8) FEET ABOVE ANY PUBLIC STREET OR SIDEWALK. SHRUBS AND OTHER PLANT MATERIALS SHALL BE MAINTAINED AT A HEIGHT OF NOT MORE THAN THIRTY (30) INCHES, AND SAID MAINTENANCE SHALL BE CONDUCTED IN PERPETUITY.
9. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
10. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
11. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, AND VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
12. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES.
13. PRIOR TO FINE GRADING, SOD AREAS AND PLANTING BEDS SHALL BE THOROUGHLY LOOSENED AND TILLED TO A 6" DEPTH. REMOVE ALL UNSUITABLE TOPSOIL, INCLUDING ALL ROCKS OR OTHER MATERIAL LARGER THAN 1 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS. AFTER THAT TIME ORGANIC AMENDMENTS SHALL THEN BE THOROUGHLY TILLED AND INCORPORATED TO A MINIMUM 6" DEPTH IN THESE AREAS AT THE MINIMUM OF RATE OF 3 CU. YDS. / 1,000 SQ.FT.
14. UNIFORMLY COMPACT AND FINE GRADE THESE SOD / GRASS AREAS AND PLANTING BEDS TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. CUT OUT SOFT SPOTS, FILL IN LOW SPOTS AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED GRADE TOLERANCES.
15. ONCE COMPACTED AND FINE GRADED, ALL ROCKS, DEBRIS, WASTE MATERIAL AND VEGETATION MATERIAL LARGER THAN 1/2" WILL BE RAKED FROM THE SURFACE AND REMOVED FROM SITE.
16. SOD TO BE 100% COLORADO GROWN DURA-TURF TALL FESCUE BLEND SPECIFICALLY GROWN FOR LOW WATER LAWN APPLICATIONS WITH MINIMUM THREE (3) IMPROVED VARIETIES, HAVING A HEALTHY VIGOROUS ROOT SYSTEM. ONCE TURF IS LAID IT SHALL BE PROPERLY ROLLED, COMPACTED AND PUSHED TOGETHER TO ELIMINATE ANY GAPS BETWEEN ROLL EDGES. APPLY FERTILIZER IN THESE AREAS PER SOD FARM'S RECOMMENDATIONS.
17. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
18. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
19. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
20. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
21. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
22. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH SHREDDED CEDAR MULCH OR NATURAL COLOR AND/OR WASHED SMOOTH RIVER ROCK. A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL SHRUB BEDS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.
23. EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK COBBLE AND CRUSHER FINES SHALL BE 14 GA HEAVY DUTY STEEL EDGER MIN. ¼" x 4" WITH ROLLED TOP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT SOD.

General Notes:

1. ALL SIGNS SHALL BE REQUIRED TO APPLY FOR A SIGN PERMIT.
2. PROPOSED GRADES SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
3. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
4. SOILS DISTURBED ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED EQUIVALENT TO THAT CONDITION PRIOR TO START OF WORK.
5. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
6. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
7. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF LOVELAND IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
8. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.

Irrigation Notes

1. IRRIGATION CONTRACTOR SHALL VERIFY AVAILABLE P.S.I. AND GPM. THIS SYSTEM SHALL THEN BE VERIFIED TO MEET THE AVAILABLE P.S.I. AND GPM AND THE PROPOSED IRRIGATION SYSTEM. IF NECESSARY CONTACT THE WATER DEPARTMENT PRIOR TO BEGINNING DESIGN TO OBTAIN AVAILABLE PRESSURES.
2. ALL INDICATED SOD GRASS AREAS ARE TO BE IRRIGATED BY A PERMANENT UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. TURF AREAS LESS THAN 25 FEET IN WIDTH ARE TO BE IRRIGATED WITH POP-UP SPRAY HEADS, AND AREAS GREATER THAN 25 FEET SHALL USE A ROTOR POP-UP SPRAY SYSTEM. ALL IRRIGATION SYSTEMS SHALL BE DESIGNED TO MINIMIZE OVERSPRAY.
3. ALL TREES, SHRUBS AND PERENNIALS OUTSIDE OF IRRIGATED SOD AREAS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM. IRRIGATION SYSTEMS SHALL BE DESIGNED TO AVOID OVERSPRAY ONTO NON-PLANTED AND IMPERVIOUS SURFACES. IRRIGATION SYSTEMS SHALL BE MAINTAINED IN GOOD WORKING ORDER AND CHECKED TO ENSURE THAT OVERSPRAY DOES NOT OCCUR.
4. FINAL LOCATION OF IRRIGATION HEADS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. HEAD LOCATION SHALL BE COORDINATED IN THE FIELD WITH EXISTING SITE CONDITIONS AND PLANT MATERIAL.
5. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
6. COORDINATE ALL IRRIGATION WORK WITH EXISTING UTILITIES AND RESPECTIVE TRADES.
7. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

Tree Protection Notes

1. HEAVY EQUIPMENT SHOULD NOT BE ALLOWED TO COMPACT OVER THE SOIL OVER THE ROOT ZONE OF PROTECTED EXISTING TREES.
2. AVOID CUTTING SURFACE ROOTS WHEREVER POSSIBLE. SIDEWALKS AND PAVING LEVELS SHOULD BE CONTOURED SUFFICIENTLY TO AVOID DAMAGE.
3. ROOT CUTS FROM EXCAVATION SHOULD BE DONE RAPIDLY. SMOOTH FLUSH CUTS SHOULD BE MADE. BACKFILL BEFORE THE ROOTS HAVE A CHANCE TO DRY OUT AND WATER THE TREE IMMEDIATELY.
4. PRIOR TO CONSTRUCTION, ALL PROTECTED TREES SHALL HAVE ORANGE PROTECTION BARRIER FENCING ERECTED, WHICH AS A MINIMUM ARE SUPPORTED BY I" X I" OR SIMILAR SURDY STOCK, FOR SHIELDING OF PROTECTED TREES, NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE HALF (/ /2) OF THE DRIP LINE, WHICH EVER IS GREATER. WITHIN THIS PROTECTION ZONE THERE SHALL BE NO MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, FILL OR CUT UNLESS APPROVED BY THE CITY FORESTER.
5. WITHIN THE DRIP LINE OF ANY PROTECTED EXISTING TREE, THERE SHALL BE NO CUT OR FILL OVER A FOUR INCH DEPTH UNLESS A QUALIFIED ARBORIST OR FORESTER HAS EVALUATED AND APPROVED THE DISTURBANCE.
6. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE OR DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE, WITHIN THE DRIP LINE OF ANY PROTECTED TREE OR GROUP OF TREES.
7. NO DAMAGING ATTACHMENT, WIRES, SIGNS OR PERMITS MAY BE FASTENED TO ANY PROTECTED TREE.

Native Grass Seed Mix

NATIVE GRASS - NATIVE PRAIRIE MEADOW GRASS MIX:

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
2. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

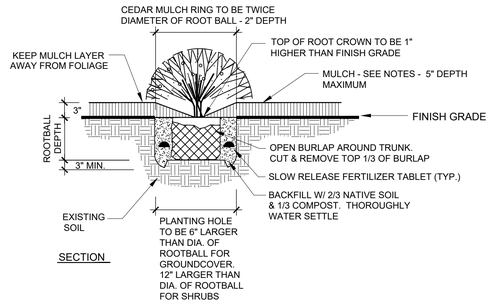
NON-IRRIGATED FOOTHILLS MIX

COMMON NAME	%
ANNUAL RYEGRASS	20%
SLENDER WHEATGRASS	15%
CRESTED WHEATGRASS	12%
MOUNTAIN BROME	10%
HARD FESCUE	10%
CANADA BLUEGRASS	10%
SIDEOATS GRAMA	6%
BIG BLUESTEM	5%
BLUE GRAMA (COATED)	5%
SAND DROPSEED	1%

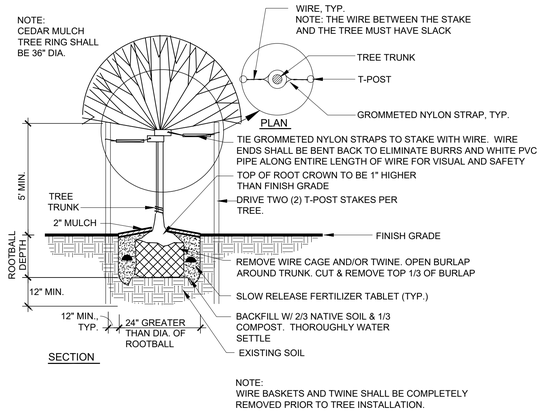
3. DRILLED APPLICATION RATE: 25.0 LBS (PLS) PER ACRE (0.57 LBS / 1000 SF
4. NATIVE SEED AREAS: ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED FOR THE ESTABLISHMENT AND MAINTENANCE FOR THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

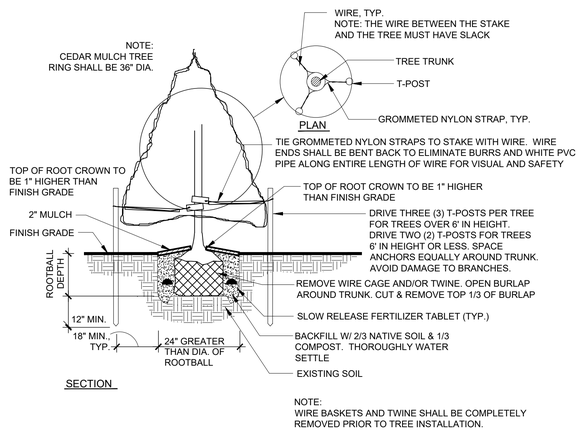
1. IMMEDIATELY FOLLOWING THE RAKING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
2. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAS ¼ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
4. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
5. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.



GROUND COVER & SHRUB PLANTING DETAIL



DECIDUOUS TREE PLANTING DETAIL



CONIFER TREE PLANTING DETAIL

TB GROUP
landscape architecture | planning | illustration
444 Mountain Ave.
Berthoud, CO 80513
TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

FINAL PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

ARBOR CAPITAL PARTNERS LLC
4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

Landscape Notes & Details

SHEET INFORMATION

Sheet Number: 8

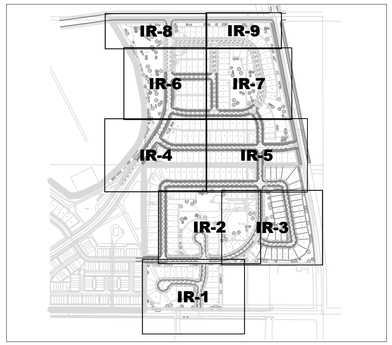
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Irrigation Schedule Controller A

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Peak Season Applied Depth (Inches)	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
A1	Turf	0.31	59.1	2,188	2.60	7
A2	Turf	0.31	65	2,398	2.61	7
A3	Turf	0.31	56.5	2,175	2.50	7
A4	Turf	0.31	59.5	2,234	2.56	7
A5	Turf	0.31	37.2	1,465	2.44	8
A6	Turf	0.31	75.3	2,758	2.63	7
A7	Turf	0.31	54.5	1,791	2.93	6
A8	Turf	0.31	64.9	2,344	2.66	7
A9	Turf	0.31	68.4	2,467	2.67	7
A10	Turf	0.31	30.3	1,042	2.80	7
A11	Turf	0.31	43.7	2,604	1.62	12
A12	Turf	0.31	49.6	2,966	1.61	12
A13	Trees/Shrubs	NA	0.5	NA	NA	20*
A14	Trees/Shrubs	NA	0.5	NA	NA	20*
A15	Trees/Shrubs	NA	0.5	NA	NA	20*
A16	Trees/Shrubs	NA	0.5	NA	NA	20*
A17	Trees/Shrubs	NA	4	NA	NA	20*
A18	Trees/Shrubs	NA	6.4	NA	NA	20*
A19	Native Seed	0.25	50	11,001	0.44	34
A20	Native Seed	0.25	50.8	10,781	0.45	33
A21	Native Seed	0.25	46.3	4,195	1.06	14
A22	Native Seed	0.25	44.4	3,918	1.09	14
A23	Native Seed	0.25	38.8	15,979	0.23	64
A24	Native Seed	0.25	69	15,265	0.44	34
A25	Native Seed	0.25	69	14,060	0.47	32
A26	Native Seed	0.25	69	16,077	0.41	36
A27	Native Seed	0.25	39	17,358	0.22	69
A28	Native Seed	0.25	55.2	13,297	0.40	38
A29	Native Seed	0.25	69	16,340	0.41	37
A30	Native Seed	0.25	52	23,144	0.22	69
A31	Native Seed	0.25	69	16,424	0.40	37
A32	Native Seed	0.25	52	23,144	0.22	69
A33	Native Seed	0.25	69	16,498	0.40	37
A34	Native Seed	0.25	69	16,344	0.41	37
A35	Native Seed	0.25	39	17,358	0.22	69
A36	Native Seed	0.25	39	17,358	0.22	69
A37	Native Seed	0.25	55.2	11,360	0.47	32
A38	Native Seed	0.25	39	17,358	0.22	69
A39	Native Seed	0.25	69	14,242	0.47	32

* DRIP ZONES TO RUN 20 MINUTES DAILY FOR ESTABLISHMENT ONLY. AFTER PLANTS ARE ESTABLISHED, SCHEDULE DRIP ZONES TO RUN 45 MINUTES, TWICE A WEEK.



KEYMAP

Irrigation Schedule Controller B

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Peak Season Applied Depth (Inches)	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
B1	Turf	0.31	56.4	3,893	1.39	13
B2	Turf	0.31	79.1	4,782	1.59	12
B3	Turf	0.31	77.9	4,718	1.59	12
B4	Turf	0.31	69.6	4,236	1.58	12
B5	Turf	0.31	76.7	4,639	1.59	12
B6	Turf	0.31	2.2	168	1.26	15
B7	Turf	0.31	79.1	4,780	1.59	12
B8	Turf	0.31	4.6	236	1.87	10
B9	Turf	0.31	33.7	1,742	1.86	10
B10	Turf	0.31	32.4	1,672	1.87	10
B11	Turf	0.31	61.5	3,266	1.81	10
B12	Turf	0.31	14.1	781	1.74	11
B13	Turf	0.31	29.5	1,729	1.64	11
B14	Turf	0.31	25.9	1,474	1.69	11
B15	Turf	0.31	26.7	1,450	1.77	10
B16	Turf	0.31	18.9	992	1.83	10
B17	Turf	0.31	16.4	3,643	0.43	43
B18	Turf	0.31	65	5,562	1.12	17
B19	Turf	0.31	11.6	624	1.79	10
B20	Turf	0.31	66.6	6,063	1.06	18
B21	Turf	0.31	54.2	8,652	0.60	31
B22	Turf	0.31	40.7	2,172	1.80	10
B23	Turf	0.31	66.6	6,390	1.00	19
B24	Turf	0.31	11	2,814	0.38	49
B25	Turf	0.31	66.6	5,320	1.20	15
B26	Turf	0.31	13.2	2,586	0.49	38
B27	Turf	0.31	19.1	1,141	1.61	12
B28	Turf	0.31	28.6	1,469	1.87	10
B29	Turf	0.31	26.4	1,806	1.41	13
B30	Turf	0.31	14.3	958	1.44	13
B31	Turf	0.31	47.3	2,459	1.85	10
B32	Turf	0.31	11.6	625	1.79	10
B33	Turf	0.31	18.9	964	1.89	10
B34	Turf	0.31	26.4	1,327	1.92	10
B35	Turf	0.31	21.3	1,068	1.92	10
B36	Turf	0.31	5.4	492	1.06	18
B37	Turf	0.31	23.5	1,227	1.84	10
B38	Turf	0.31	4.6	341	1.30	14
B39	Turf	0.31	47.9	2,593	1.78	10
B40	Trees/Shrubs	NA	2.4	NA	NA	20*
B41	Trees/Shrubs	NA	2	NA	NA	20*
B42	Trees/Shrubs	NA	2.7	NA	NA	20*
B43	Trees/Shrubs	NA	3.4	NA	NA	20*
B44	Trees/Shrubs	NA	0.4	NA	NA	20*
B45	Trees/Shrubs	NA	1.5	NA	NA	20*
B46	Trees/Shrubs	NA	2.4	NA	NA	20*
B47	Trees/Shrubs	NA	1.6	NA	NA	20*
B48	Trees/Shrubs	NA	0.4	NA	NA	20*
B49	Trees/Shrubs	NA	1.5	NA	NA	20*
B50	Trees/Shrubs	NA	2	NA	NA	20*
B51	Trees/Shrubs	NA	1.7	NA	NA	20*
B52	Trees/Shrubs	NA	1.3	NA	NA	20*
B53	Trees/Shrubs	NA	1.3	NA	NA	20*

* DRIP ZONES TO RUN 20 MINUTES DAILY FOR ESTABLISHMENT ONLY. AFTER PLANTS ARE ESTABLISHED, SCHEDULE DRIP ZONES TO RUN 45 MINUTES, TWICE A WEEK.

Irrigation Schedule Controller B

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Season Applied	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
B54	Native Seed	0.25	27.4	5,724	0.46	33
B55	Native Seed	0.25	41.4	5,666	0.70	21
B56	Native Seed	0.25	55.2	18,182	0.29	51
B57	Native Seed	0.25	55.2	9,989	0.53	28
B58	Native Seed	0.25	69	10,848	0.61	25
B59	Native Seed	0.25	68.6	24,668	0.27	56
B60	Native Seed	0.25	69	11,249	0.59	25
B61	Native Seed	0.25	55.2	11,847	0.45	33
B62	Native Seed	0.25	17.7	5,247	0.32	46
B63	Native Seed	0.25	41.9	18,145	0.22	67
B64	Native Seed	0.25	69	10,477	0.63	24
B65	Native Seed	0.25	69	22,401	0.30	51
B66	Native Seed	0.25	69	10,130	0.66	23
B67	Native Seed	0.25	69	13,642	0.49	31
B68	Native Seed	0.25	61.8	11,015	0.54	28
B69	Native Seed	0.25	55.2	17,621	0.30	50
B70	Native Seed	0.25	22.9	5,414	0.41	37
B71	Native Seed	0.25	69	11,670	0.57	26
B72	Native Seed	0.25	48.1	3,875	1.19	13
B73	Native Seed	0.25	55.2	7,698	0.69	22
B74	Native Seed	0.25	41.4	6,693	0.60	25
B75	Native Seed	0.25	69	21,302	0.31	48
B76	Native Seed	0.25	69	21,302	0.31	48
B77	Native Seed	0.25	69	10,730	0.62	24
B78	Native Seed	0.25	69	21,301	0.31	48
B79	Native Seed	0.25	55.2	8,695	0.61	25
B80	Native Seed	0.25	69	21,302	0.31	48
B81	Native Seed	0.25	69	21,302	0.31	48
B82	Native Seed	0.25	69	21,302	0.31	48
B83	Native Seed	0.25	55.2	8,017	0.66	23
B84	Native Seed	0.25	69	12,371	0.54	28
B85	Native Seed	0.25	5.2	2,595	0.19	78
B86	Native Seed	0.25	69	11,063	0.60	25
B87	Native Seed	0.25	22.9	5,359	0.41	36
B88	Native Seed	0.25	69	11,483	0.58	26
B89	Native Seed	0.25	11.8	4,713	0.24	62
B90	Native Seed	0.25	14.8	6,547	0.22	69
B91	Native Seed	0.25	25.9	1,680	1.48	10
B92	Native Seed	0.25	69.1	11,629	0.57	26
B93	Native Seed	0.25	69	10,014	0.66	23
B94	Native Seed	0.25	69	6,636	1.00	15
B95	Native Seed	0.25	69.8	21,024	0.32	47
B96	Native Seed	0.25	12.8	3,314	0.37	40
B97	Native Seed	0.25	70.1	20,441	0.33	45
B98	Native Seed	0.25	24	8,260	0.28	54
B99	Native Seed	0.25	39.8	9,016	0.42	35
B100	Native Seed	0.25	62.7	14,771	0.41	37
B101	Native Seed	0.25	48.6	9,789	0.48	31
B102	Native Seed	0.25	46.2	10,157	0.44	34
B103	Native Seed	0.25	32	7,284	0.42	35
B104	Native Seed	0.25	39.6	9,521	0.40	37
B105	Native Seed	0.25	49.5	11,424	0.42	36
B106	Native Seed	0.25	66	14,275	0.45	34

IRRIGATION LEGEND

- MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
- SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
- DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
- SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
- POC — POINT OF CONNECTION/WINTERIZATION ASSEMBLY
- MV — MASTER VALVE/FLOW SENSOR ASSEMBLY
- ISOLATION GATE VALVE
- QCV — QUICK COUPLER: RAINBIRD 5RC
- REMOTE CONTROLE VALVE: RAIN BIRD PESB
- DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
- DRIP FLUSH CAP
- A — IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI
- A1 — CONTROLLER STATION/ID
- 2.2 — FLOW (GPM)
- 1" — NOMINAL VALVE SIZE

HUNTER-I-20-04-R-MPR 55 PSI
- 25H — NOZZLE 25H: 2.2 GPM, 25.0'
- 25Q — NOZZLE 25Q: 1.1 GPM, 25.0'
- 30F — NOZZLE 30F: 6.4 GPM, 30.0'
- 30H — NOZZLE 30H: 3.3 GPM, 30.0'
- 30Q — NOZZLE 30Q: 1.6 GPM, 30.0'
- 35F — NOZZLE 35F: 8.4 GPM, 35.0'
- 35H — NOZZLE 35H: 4.2 GPM, 35.0'
- 35Q — NOZZLE 35Q: 2.1 GPM, 35.0'

HUNTER-I-40-04-R 50 PSI
- 10 — NOZZLE 10: 10.3 GPM, 49.0'
- 13 — NOZZLE 13: 11.1 GPM, 50.0'
- 15 — NOZZLE 15: 13.8 GPM, 54.0'
- 15N — NOZZLE 15ON: 13.0 GPM, 52.0'
- 8 — NOZZLE 8: 8.4 GPM, 45.0'

HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
- 10H — NOZZLE 10H: 0.4 GPM, 14.0'
- 10Q — NOZZLE 10Q: 0.2 GPM, 14.0'
- 20F — NOZZLE 20F: 1.5 GPM, 19.0'
- 20H — NOZZLE 20H: 0.7 GPM, 19.0'
- 20Q — NOZZLE 20Q: 0.4 GPM, 20.0'
- 30F — NOZZLE 30F: 3.6 GPM, 30.0'
- 30H — NOZZLE 30H: 1.8 GPM, 30.0'
- 30Q — NOZZLE 30Q: 0.9 GPM, 30.0'
- 35H — NOZZLE 35H: 2.9 GPM, 35.0'
- 35Q — NOZZLE 35Q: 1.3 GPM, 35.0'

RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
- 15LCS — NOZZLE 15LCS: 0.5 GPM, 15.0'
- 15RCS — NOZZLE 15RCS: 0.5 GPM, 15.0'
- 15SST — NOZZLE 15SST: 1.2 GPM, 15.0'
- 9SST — NOZZLE 9SST: 1.7 GPM, 18.0'

RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
- NOZZLE 10H: 0.9 GPM, 10.0'
- NOZZLE 10Q: 0.5 GPM, 10.0'
- NOZZLE 12F: 2.4 GPM, 12.0'
- NOZZLE 12H: 1.2 GPM, 12.0'
- NOZZLE 12Q: 0.6 GPM, 12.0'
- NOZZLE 8H: 0.6 GPM, 8.0'
- NOZZLE 8Q: 0.3 GPM, 8.0'

NOTES

1. INSTALL SYSTEM TO IRRIGATE NEW LANDSCAPING. SPRINKLERS IRRIGATE SOD AREAS. DRIP WILL IRRIGATE NEW TREE AND SHRUB PLANTINGS IN PLANTING BEDS. TEMPORARY SPRINKLER IRRIGATION IS PROVIDED FOR ESTABLISHMENT OF NATIVE SEED AREAS. WATER SOURCE WILL BE TO IRRIGATION SERVICE LINE AT LOCATION INDICATED.
2. SYSTEM IS DESIGNED FOR A DYNAMIC PRESSURE OF 75 PSI AT 200 GPM. VERIFY DYNAMIC PRESSURE ONSITE BEFORE INSTALLATION OF SYSTEM.
3. CONTROL WILL BE VIA NEW IRRIGATION CONTROLLER PEDESTAL MOUNTED ADJACENT TO THE POINT OF CONNECTION. CONTROL WILL BE VIA TWO WIRE PATH. INSTALL DECODERS AND GROUNDING PER MANUFACTURER'S RECOMMENDATION. INSTALL CONTROL CABLE NOT ADJACENT TO MAINLINE IN CONDUIT.
4. THE ENTIRE INSTALLATION SHALL FULLY COMPLY WITH ALL LOCAL AND STATE LAWS AND ORDINANCES AND WITH ALL THE ESTABLISHED APPLICABLE CODES.
5. UTILITY LOCATES ("CALL BEFORE YOU DIG"): ARRANGE FOR AND COORDINATE WITH GENERAL CONTRACTOR AND LOCAL AUTHORITIES THE LOCATION OF ALL UNDERGROUND UTILITIES. CALL 1-800-849-2476.
6. WARRANTY IRRIGATION SYSTEM FOR ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF WORK.
7. DO NOT PROCEED WITH THE INSTALLATION OF IRRIGATION COMPONENTS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS EXIST, BRING THEM TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
8. MAINLINE SLEEVES HAVE BEEN INSTALLED ACROSS STREETS BY THE GENERAL CONTRACTOR. ALL OTHER SLEEVING WILL BE INSTALLED BY THE IRRIGATION CONTRACTOR. SLEEVES ARE REQUIRED FOR BOTH PIPING AND CONTROL WIRING AT EACH HARDSCAPE CROSSING. SIZE SLEEVES TO BE TWICE THE SIZE OF THE PIPE OR WIRE BUNDLE THAT IS CARRIED IN SAID SLEEVE.
9. MAINLINE PIPE:
   a. USE CLASS 200 SDR 21 NSF APPROVED RIGID PVC PIPE.
   b. USE SOLVENT WELD PIPE.
   c. USE SCHEDULE 40, TYPE 1, PVC SOLVENT WELD FITTINGS. USE PRIMER APPROVED BY THE PIPE MANUFACTURER.
   d. MAINLINE PIPE IS 3" NOMINAL SIZE UNLESS INDICATED OTHERWISE.
   e. CONDUCT A MAINLINE PRESSURE TEST AT AVAILABLE PRESSURE OVER ONE HOUR, ALLOWABLE PRESSURE DROP IS 5 PSI.
   f. MAINLINE PIPE TO BE BURIED WITH 24-INCHES OF COVER.
10. LATERAL PIPE:
   a. USE CLASS 200 SDR 21 NSF APPROVED RIGID PVC PIPE
   b. USE SOLVENT WELD PIPE.
   c. USE SCHEDULE 40, TYPE 1, PVC SOLVENT WELD FITTINGS. USE PRIMER APPROVED BY THE PIPE MANUFACTURER.
   d. MINIMUM LATERAL PIPE SIZE IS 1". SIZE PIPE AS INDICATED. ALL SECTIONS OF PIPE BETWEEN TWO IDENTICAL LABELS ARE THE SIZE OF SAID LABELS.
   e. FLEXIBLE POLYETHYLENE PIPE RATED FOR AT LEAST 100 PSI FOR ALL PIPE 1-1/2" AND SMALLER LATERAL PIPE CAN BE USED. USE PLASTIC TYPE PVC OR NYLON INSERT FITTINGS AND SADDLE TEES.
   f. SPRINKLER LATERAL PIPE TO BE BURIED WITH 14-INCHES OF COVER.
11. DRIP TUBING:
   a. USE U.V. RESISTANT POLYETHYLENE RATED FOR 60 PSI.
   b. USE COMPRESSION FITTINGS PER MANUFACTURER RECOMMENDATION.
   c. DRIP TUBING TO BE BURIED WITH 4-INCHES OF COVER.
12. COMPACT TRENCHES IN 6-INCH LIFTS TO 90% PROCTOR DENSITY. PUDDLING OF TRENCHES IS NOT ALLOWED.
13. ADJUST EACH SPRINKLER TO PROVIDE COMPLETE AND OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ONTO HARDSCAPE.
14. PROVIDE TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVE.
15. FURNISH ACCURATE REPRODUCIBLE "AS-BUILT" DRAWINGS SHOWING FIELD CHANGES IN LAYOUT AND EQUIPMENT INSTALLATION. AS-BUILT DRAWINGS TO BE PLOTTED OUT FULL SCALE ALSO INCLUDE AN ELECTRONIC COPIES IN AUTOCAD AND ADOBE ACROBAT (PDF) FORMAT.
16. CLEAN UP ALL DEBRIS RELATED TO THE JOB, AND LEAVE THE SITE IN A CLEAN TIDY CONDITION.
17. TEST AND DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THE SATISFACTORY OPERATION OF THE SYSTEM.

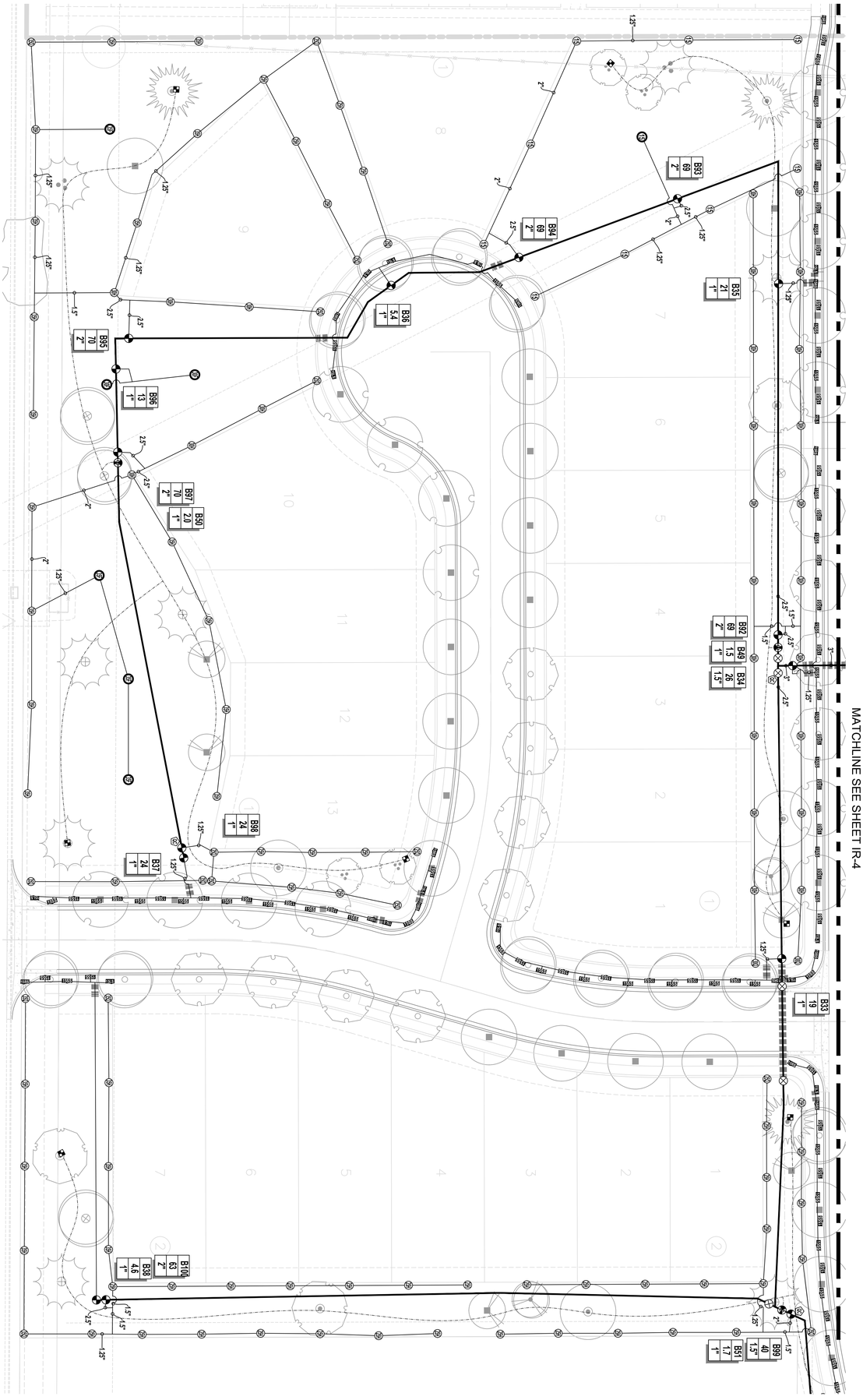
REV	DESCRIPTION OF REVISION	BY	DATE

The Irrigation Engineers
2727 Alan St. • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

DESIGNED: AL
DRAWN: AL
CHECKED: TG
PROJECT MANAGER: TG
DATE: JANUARY 28, 2022

Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-o



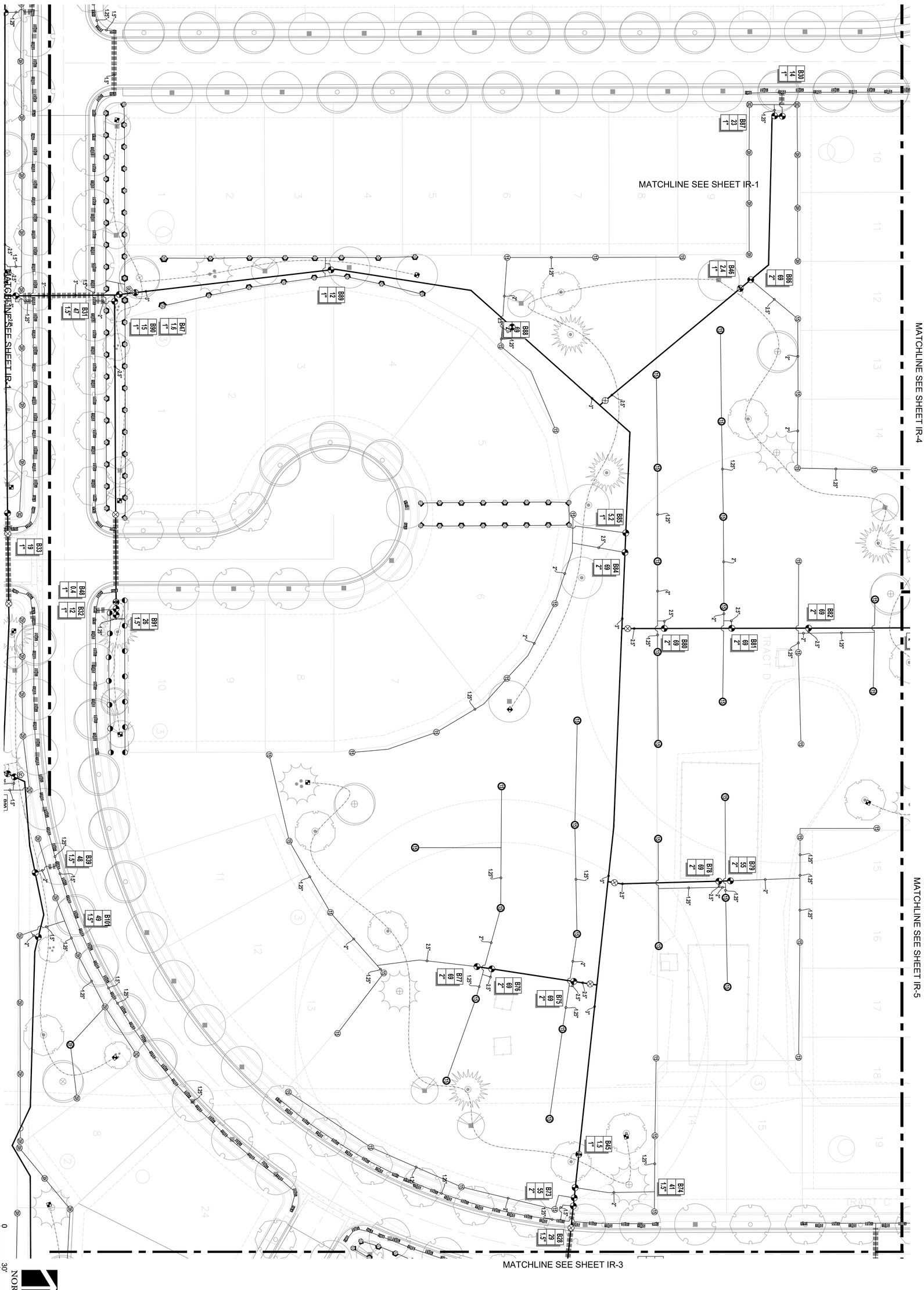
SHEET
IR-1

Cottonwood Green PUD No. 5-10
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SHEET
IR-2

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IRRIGATION LEGEND

- MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
- SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
- DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
- SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
- POINT OF CONNECTION/WINTERIZATION ASSEMBLY
- MASTER VALVE/FLOW SENSOR ASSEMBLY
- ISOLATION GATE VALVE
- QUICK COUPLER: RAINBIRD 5RC
- REMOTE CONTROLE VALVE: RAIN BIRD PESB
- DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
- DRIP FLUSH CAP
- IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI

A1 / 2.2 / 1" — CONTROLLER STATION/ID; FLOW (GPM); NOMINAL VALVE SIZE

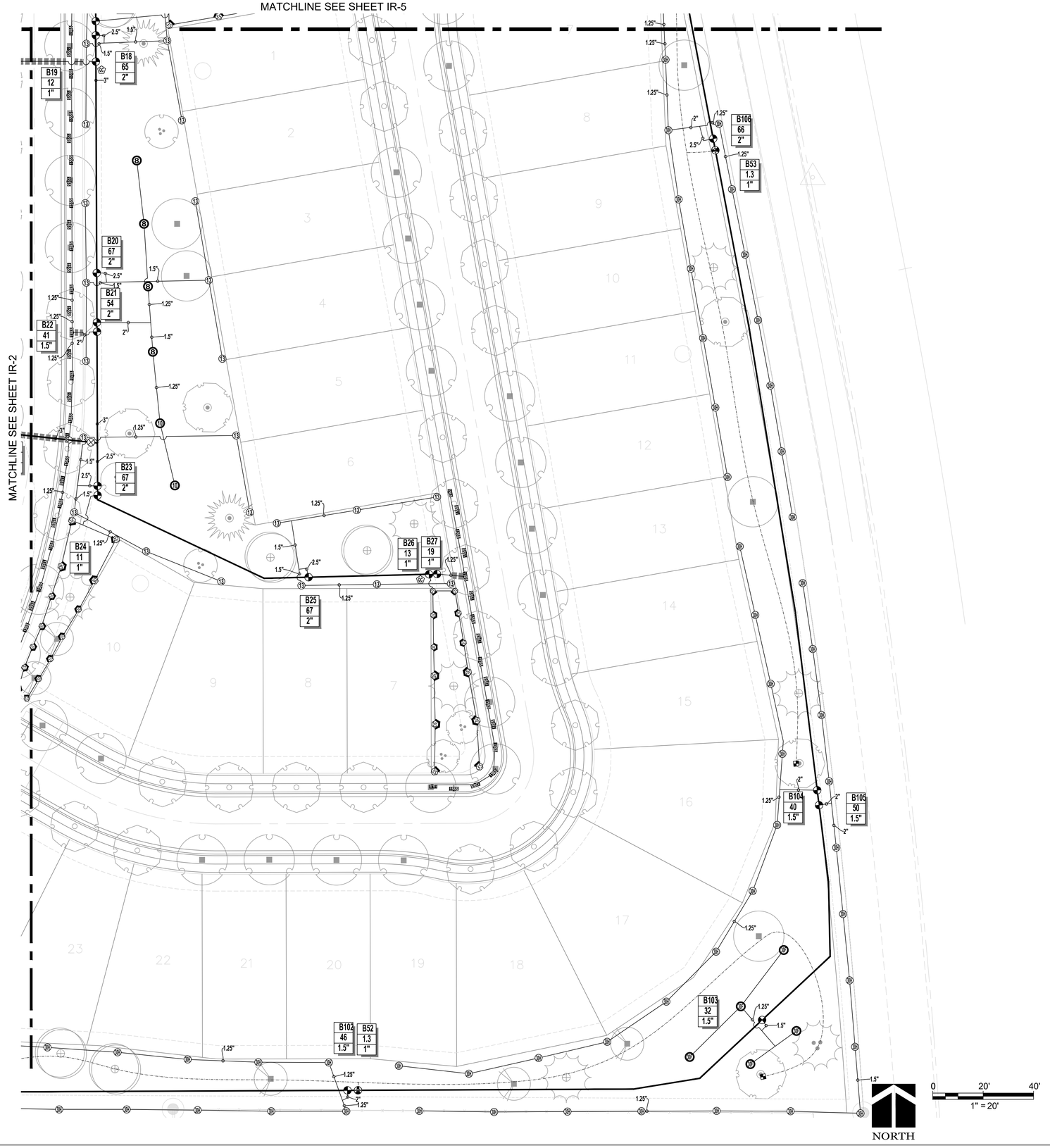
HUNTER-I-20-04-R-MPR 55 PSI
- NOZZLE 25H: 2.2 GPM, 25.0'
- NOZZLE 25Q: 1.1 GPM, 25.0'
- NOZZLE 30F: 6.4 GPM, 30.0'
- NOZZLE 30H: 3.3 GPM, 30.0'
- NOZZLE 30Q: 1.6 GPM, 30.0'
- NOZZLE 35F: 8.4 GPM, 35.0'
- NOZZLE 35H: 4.2 GPM, 35.0'
- NOZZLE 35Q: 2.1 GPM, 35.0'

HUNTER-I-40-04-R 50 PSI
- NOZZLE 10: 10.3 GPM, 49.0'
- NOZZLE 13: 11.1 GPM, 50.0'
- NOZZLE 15: 13.8 GPM, 54.0'
- NOZZLE 15ON: 13.0 GPM, 52.0'
- NOZZLE 8: 8.4 GPM, 45.0'

HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
- NOZZLE 10H: 0.4 GPM, 14.0'
- NOZZLE 10Q: 0.2 GPM, 14.0'
- NOZZLE 20F: 1.5 GPM, 19.0'
- NOZZLE 20H: 0.7 GPM, 19.0'
- NOZZLE 20Q: 0.4 GPM, 20.0'
- NOZZLE 30F: 3.6 GPM, 30.0'
- NOZZLE 30H: 1.8 GPM, 30.0'
- NOZZLE 30Q: 0.9 GPM, 30.0'
- NOZZLE 35H: 2.9 GPM, 35.0'
- NOZZLE 35Q: 1.3 GPM, 35.0'

RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
- NOZZLE 15LCS: 0.5 GPM, 15.0'
- NOZZLE 15RCS: 0.5 GPM, 15.0'
- NOZZLE 15SST: 1.2 GPM, 15.0'
- NOZZLE 9SST: 1.7 GPM, 18.0'

RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
- NOZZLE 10H: 0.9 GPM, 10.0'
- NOZZLE 10Q: 0.5 GPM, 10.0'
- NOZZLE 12F: 2.4 GPM, 12.0'
- NOZZLE 12H: 1.2 GPM, 12.0'
- NOZZLE 12Q: 0.6 GPM, 12.0'
- NOZZLE 8H: 0.6 GPM, 8.0'
- NOZZLE 8Q: 0.3 GPM, 8.0'



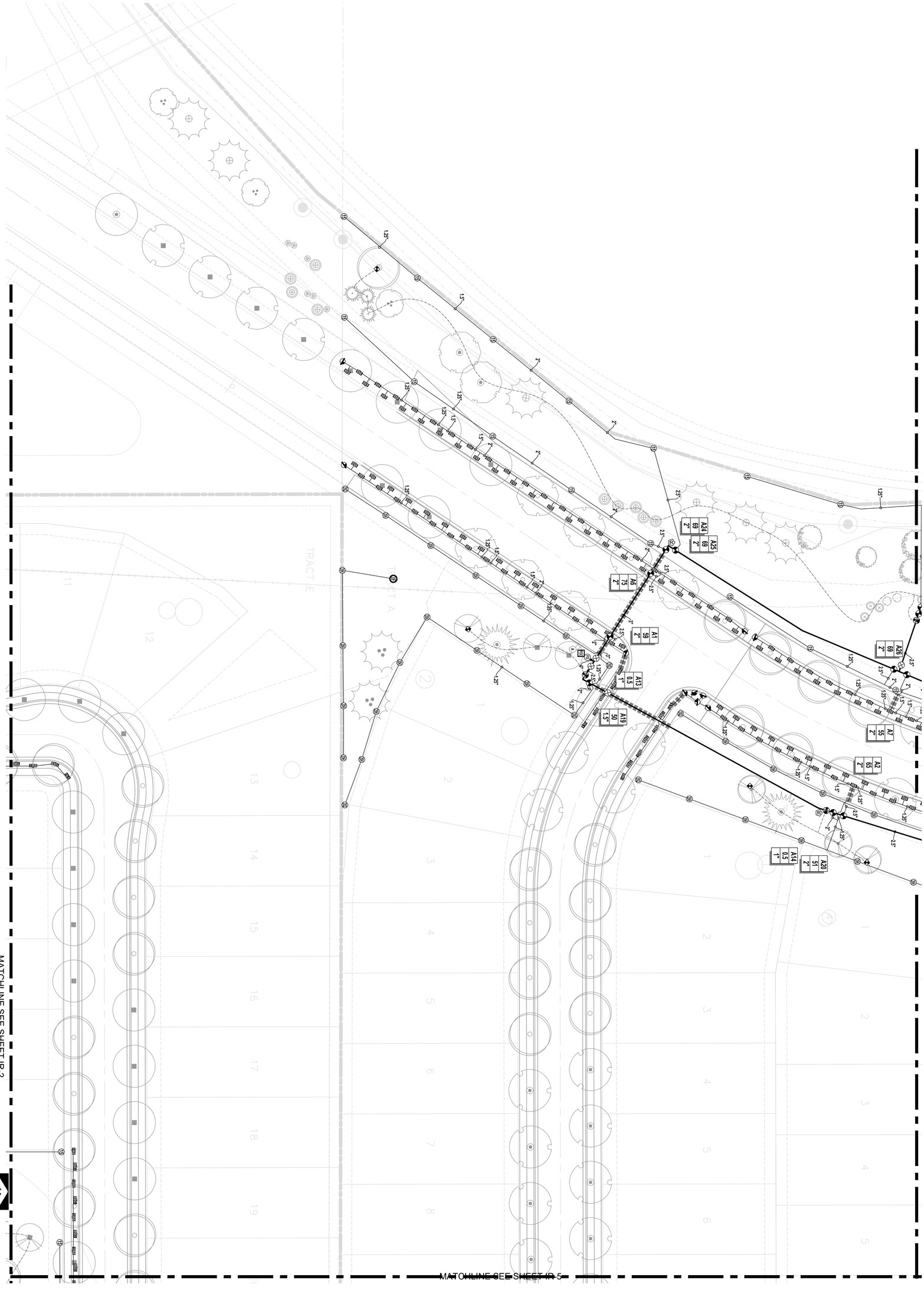
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Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-3



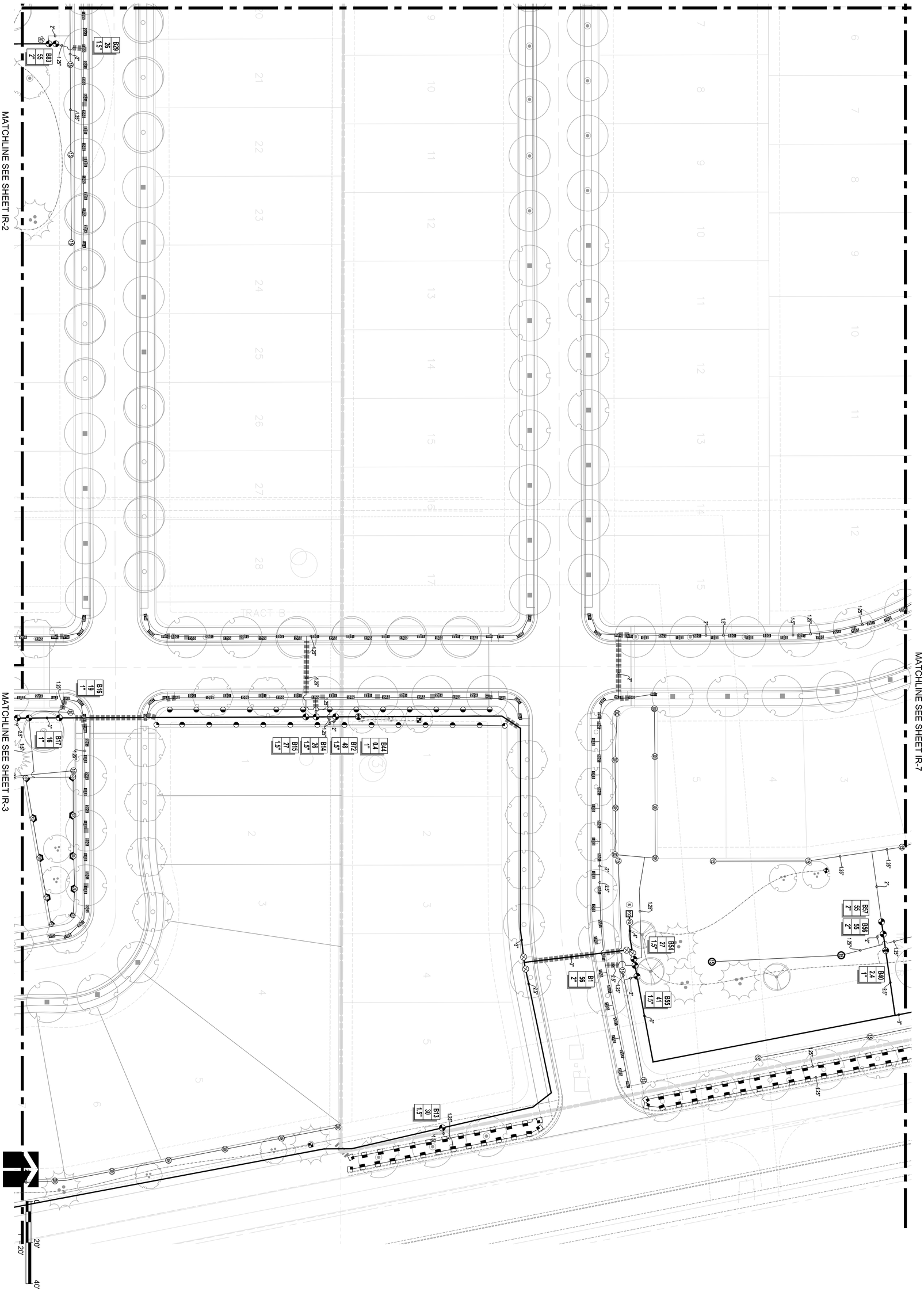
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IR-4

Cottonwood Green PUD No. 5-10
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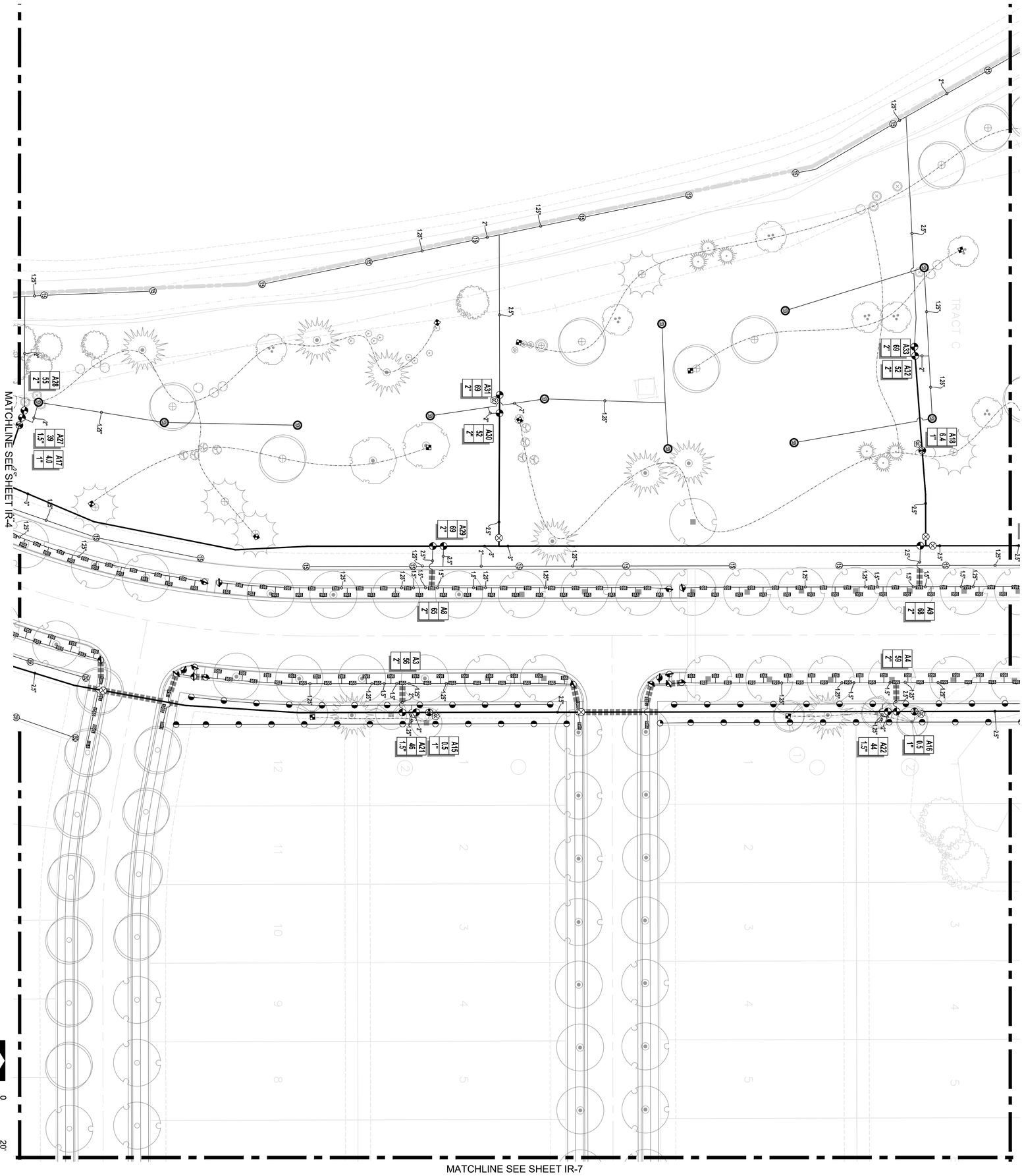
SHEET IR-5

Cottonwood Green PUD No. 5-10
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NORTH

0 20' 40'
1" = 20'

SHEET
IR-6

Cottonwood Green PUD No. 5-10
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MATCHLINE SEE SHEET IR-9

MATCHLINE SEE SHEET IR-6

MATCHLINE SEE SHEET IR-5

B12 14 1"
B71 69 2"
B70 23 1"
B11 62 2"
B69 55 2"
B68 62 2"
B67 69 2"
B43 3.4 1"
B41 2.0 1"
B59 69 2"
B3 78 2"
B65 69 2"
B64 69 2"
B8 4.6 1"
B9 34 1.5"
B58 69 2"
B66 69 2"
B10 32 1.5"

TRACT C

NORTH

0 20' 40'
1" = 20'

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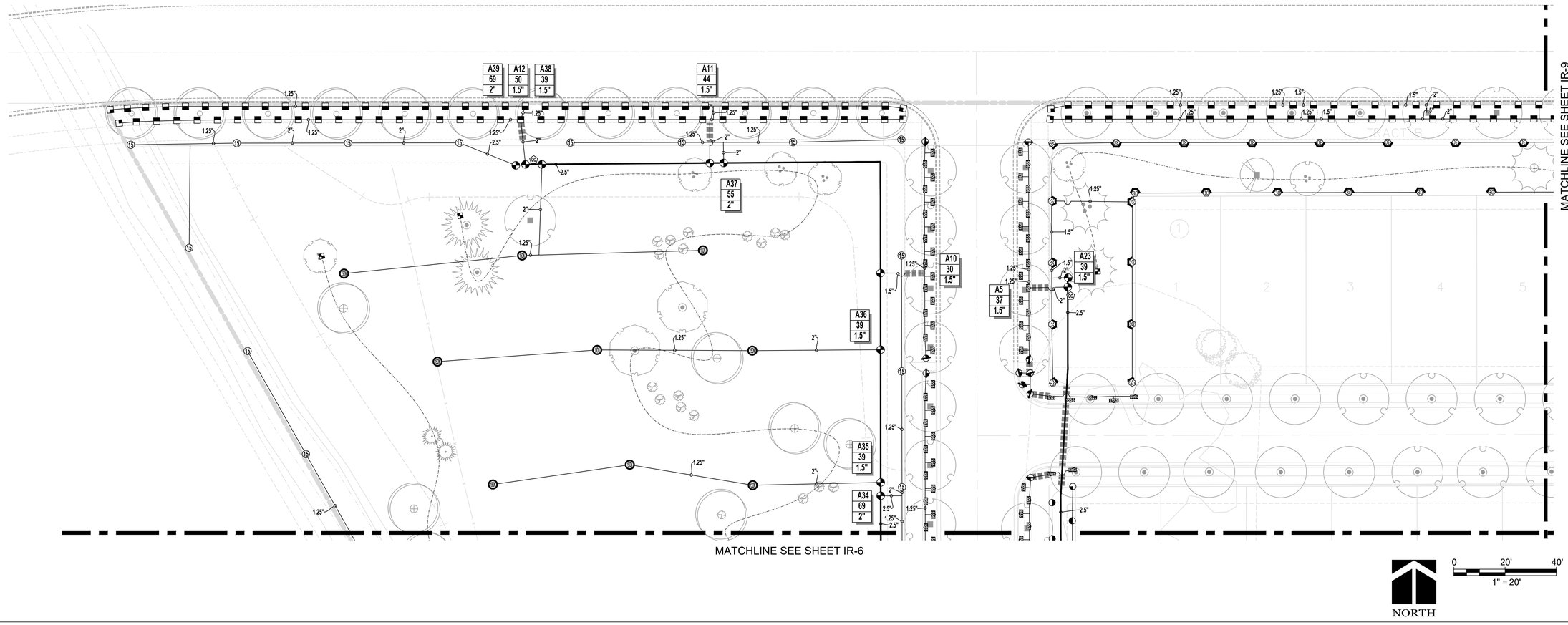
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Cottonwood Green PUD No. 5-10 Openspace Irrigation Plan

SHEET
IR-7

IRRIGATION LEGEND

	MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE	HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
	SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE	NOZZLE 10H: 0.4 GPM, 14.0'
	DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH	NOZZLE 10Q: 0.2 GPM, 14.0'
	SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE	NOZZLE 20F: 1.5 GPM, 19.0'
POC	POINT OF CONNECTION/WINTERIZATION ASSEMBLY	NOZZLE 20H: 0.7 GPM, 19.0'
M	MASTER VALVE/FLOW SENSOR ASSEMBLY	NOZZLE 20Q: 0.4 GPM, 20.0'
	ISOLATION GATE VALVE	NOZZLE 30F: 3.6 GPM, 30.0'
	QUICK COUPLER: RAINBIRD 5RC	NOZZLE 30H: 1.8 GPM, 30.0'
	REMOTE CONTROLE VALVE: RAIN BIRD PESB	NOZZLE 30Q: 0.9 GPM, 30.0'
	DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC	NOZZLE 35H: 2.9 GPM, 35.0'
	DRIP FLUSH CAP	NOZZLE 35Q: 1.3 GPM, 35.0'
A	IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI	RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
		NOZZLE 15LCS: 0.5 GPM, 15.0'
A1	CONTROLLER STATION/ID	NOZZLE 15RCS: 0.5 GPM, 15.0'
2.2	FLOW (GPM)	NOZZLE 15SST: 1.2 GPM, 15.0'
1"	NOMINAL VALVE SIZE	NOZZLE 9SST: 1.7 GPM, 18.0'
	HUNTER-I-20-04-R-MPR 55 PSI	RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
25H	NOZZLE 25H: 2.2 GPM, 25.0'	NOZZLE 10H: 0.9 GPM, 10.0'
25Q	NOZZLE 25Q: 1.1 GPM, 25.0'	NOZZLE 10Q: 0.5 GPM, 10.0'
30F	NOZZLE 30F: 6.4 GPM, 30.0'	NOZZLE 12F: 2.4 GPM, 12.0'
30H	NOZZLE 30H: 3.3 GPM, 30.0'	NOZZLE 12H: 1.2 GPM, 12.0'
30Q	NOZZLE 30Q: 1.6 GPM, 30.0'	NOZZLE 12Q: 0.6 GPM, 12.0'
35F	NOZZLE 35F: 8.4 GPM, 35.0'	NOZZLE 8H: 0.6 GPM, 8.0'
35H	NOZZLE 35H: 4.2 GPM, 35.0'	NOZZLE 8Q: 0.3 GPM, 8.0'
35Q	NOZZLE 35Q: 2.1 GPM, 35.0'	
	HUNTER-I-40-04-R 50 PSI	
10	NOZZLE 10: 10.3 GPM, 49.0'	
13	NOZZLE 13: 11.1 GPM, 50.0'	
15	NOZZLE 15: 13.8 GPM, 54.0'	
15ON	NOZZLE 15ON: 13.0 GPM, 52.0'	
8	NOZZLE 8: 8.4 GPM, 45.0'	



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Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-8

IRRIGATION LEGEND

	MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
	SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
	DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
	SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
POC	POINT OF CONNECTION/WINTERIZATION ASSEMBLY
FS	MASTER VALVE/FLOW SENSOR ASSEMBLY
	ISOLATION GATE VALVE
QC	QUICK COUPLER: RAINBIRD 5RC
	REMOTE CONTROLE VALVE: RAIN BIRD PESB
DRC	DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
	DRIP FLUSH CAP
A	IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI
A1	CONTROLLER STATION/ID
2.2	FLOW (GPM)
1"	NOMINAL VALVE SIZE
	HUNTER-I-20-04-R-MPR 55 PSI
25H	NOZZLE 25H: 2.2 GPM, 25.0'
25Q	NOZZLE 25Q: 1.1 GPM, 25.0'
30F	NOZZLE 30F: 6.4 GPM, 30.0'
30H	NOZZLE 30H: 3.3 GPM, 30.0'
30Q	NOZZLE 30Q: 1.6 GPM, 30.0'
35F	NOZZLE 35F: 8.4 GPM, 35.0'
35H	NOZZLE 35H: 4.2 GPM, 35.0'
35Q	NOZZLE 35Q: 2.1 GPM, 35.0'
	HUNTER-I-40-04-R 50 PSI
10	NOZZLE 10: 10.3 GPM, 49.0'
13	NOZZLE 13: 11.1 GPM, 50.0'
15	NOZZLE 15: 13.8 GPM, 54.0'
15ON	NOZZLE 15ON: 13.0 GPM, 52.0'
8	NOZZLE 8: 8.4 GPM, 45.0'

	HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
10H	NOZZLE 10H: 0.4 GPM, 14.0'
10Q	NOZZLE 10Q: 0.2 GPM, 14.0'
20F	NOZZLE 20F: 1.5 GPM, 19.0'
20H	NOZZLE 20H: 0.7 GPM, 19.0'
20Q	NOZZLE 20Q: 0.4 GPM, 20.0'
30F	NOZZLE 30F: 3.6 GPM, 30.0'
30H	NOZZLE 30H: 1.8 GPM, 30.0'
30Q	NOZZLE 30Q: 0.9 GPM, 30.0'
35H	NOZZLE 35H: 2.9 GPM, 35.0'
35Q	NOZZLE 35Q: 1.3 GPM, 35.0'
	RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
15LCS	NOZZLE 15LCS: 0.5 GPM, 15.0'
15RCS	NOZZLE 15RCS: 0.5 GPM, 15.0'
15SST	NOZZLE 15SST: 1.2 GPM, 15.0'
9SST	NOZZLE 9SST: 1.7 GPM, 18.0'
	RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
10H	NOZZLE 10H: 0.9 GPM, 10.0'
10Q	NOZZLE 10Q: 0.5 GPM, 10.0'
12F	NOZZLE 12F: 2.4 GPM, 12.0'
12H	NOZZLE 12H: 1.2 GPM, 12.0'
12Q	NOZZLE 12Q: 0.6 GPM, 12.0'
8H	NOZZLE 8H: 0.6 GPM, 8.0'
8Q	NOZZLE 8Q: 0.3 GPM, 8.0'

REV	DESCRIPTION OF REVISION	BY	DATE

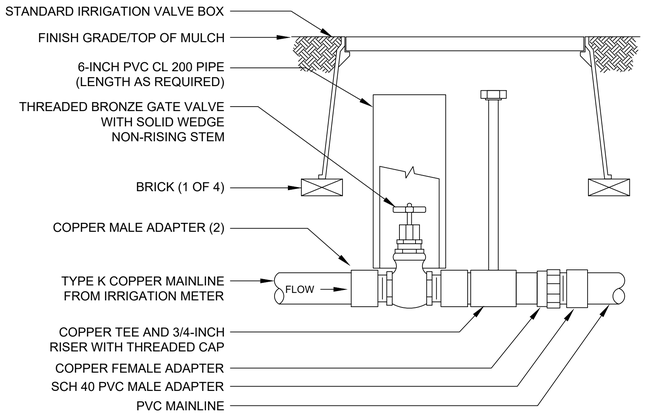
The Irrigation Engineers
2727 Alan St • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

DESIGNED:	AL
DRAWN:	AL
CHECKED:	TG
PROJECT MANAGER:	TG
DATE:	JANUARY 28, 2022

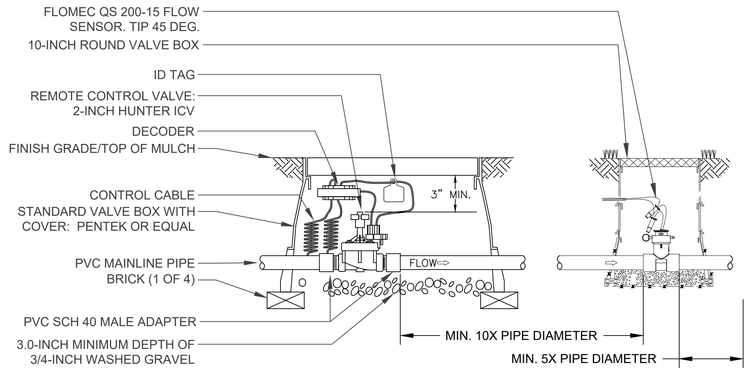
Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

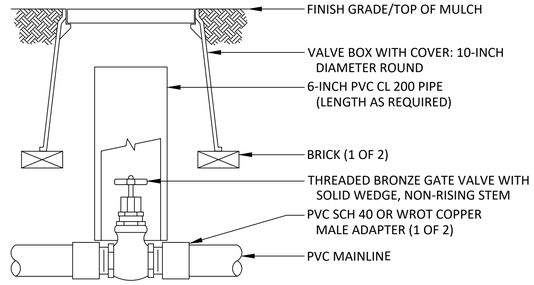
SHEET

IR-9

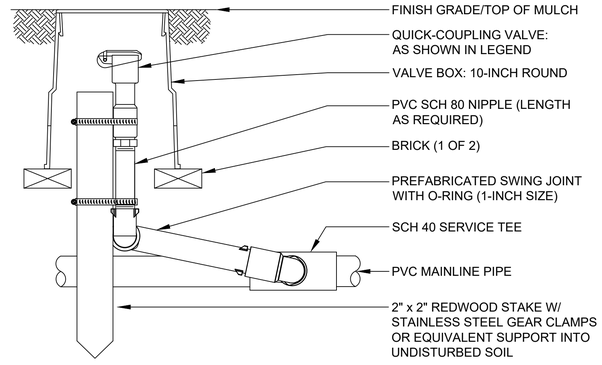


NOTE:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL SIZE OF COPPER PIPE.

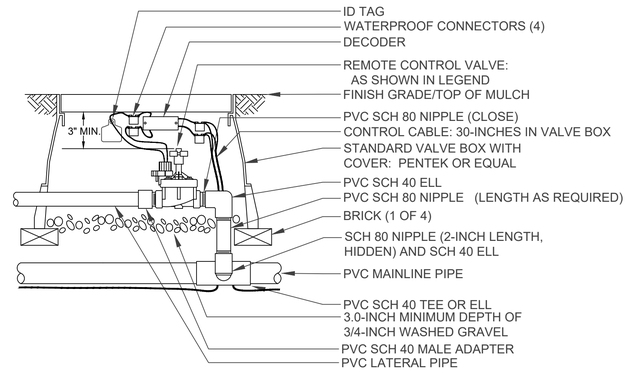


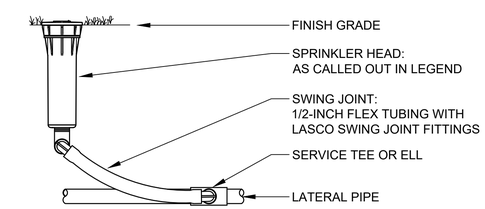


NOTE:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE.

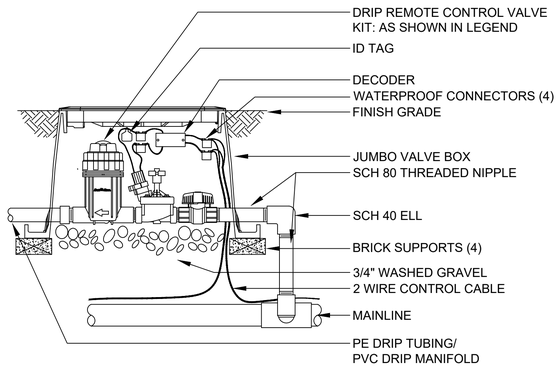


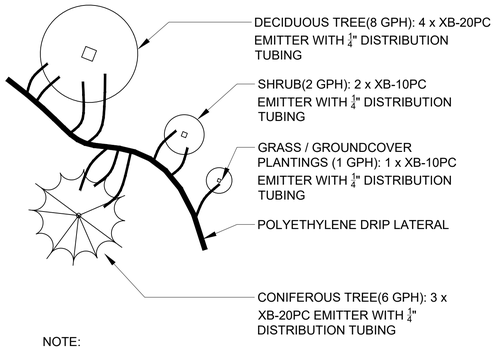
NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.



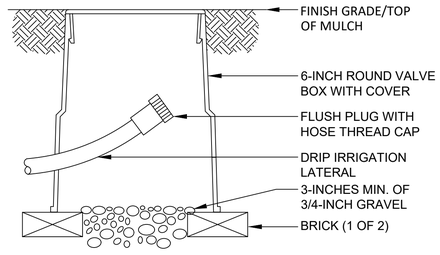


NOTE: FOR SPRINKLERS OVER 5 GPM USE PREFABRICATED PVC SWING JOINT





NOTE:
1. MAXIMUM LENGHT OF ¼" DISTRIBUTION TUBING IS 5-FEET
2. STAKE ENDS OF DISTRIBUTION TUBING ON UPHILL SIDE OF PLANT.



REV	DESCRIPTION OF REVISION	BY	DATE

The Irrigation Engineers
2727 Alan St. • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

DESIGNED: AL	DRAWN: AL	CHECKED: TG	PROJECT MANAGER: TG	DATE: JANUARY 28, 2022	

Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

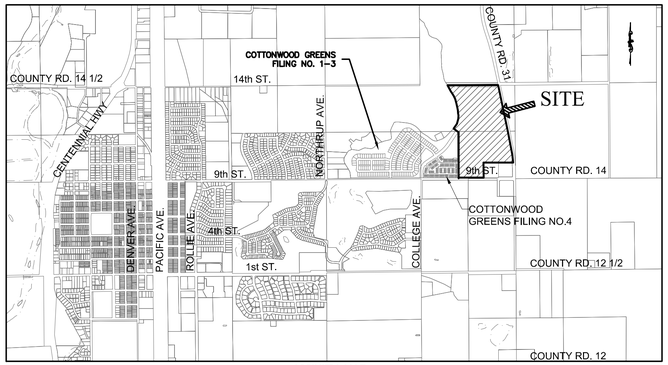
SHEET

IR-10

COTTONWOOD GREENS FILING NO. 5

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 5 CONSTRUCTION PLANS



VICINITY MAP
SCALE: 1"=2,000'

LEGAL DESCRIPTION:

COTTONWOOD GREENS PUD FILING NO. 5

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO-FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2-1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 259.37". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 87°46'51" EAST 763.89 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 14TH/ STREET AND THE NORTHWEST CORNER OF SAID THERMO-FARMS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID SOUTH RIGHT-OF-WAY LINE AND ALONG THE NORTH LINE OF SAID THERMO-FARMS NORTH 89°58'06" EAST 456.81 FEET;

THENCE DEPARTING SAID SOUTH RIGHT-OF-WAY LINE AND SAID NORTH LINE SOUTH 00°01'47" EAST 25.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AND A CENTER WHICH BEARS SOUTH 45°04'31" EAST;

THENCE 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45" TO A POINT OF TANGENCY;

THENCE SOUTH 00°07'09" EAST 656.17 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 532.50 FEET;

THENCE 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40" TO A POINT OF NON-TANGENCY;

THENCE SOUTH 56°15'29" EAST 85.00 FEET;

THENCE SOUTH 33°44'31" WEST 3.48 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE SOUTH 56°15'29" EAST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE HAVING A RADIUS OF 145.00 FEET;

THENCE 3.03 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°11'50" TO A POINT OF NON-TANGENCY;

THENCE NORTH 20°20'45" EAST 127.99 FEET;

THENCE SOUTH 69°39'15" EAST 18.25 FEET;

THENCE SOUTH 79°55'29" EAST 75.55 FEET;

THENCE NORTH 89°52'51" EAST 665.22 FEET;

THENCE SOUTH 00°07'09" EAST 98.59 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FET AND A CENTER WHICH BEARS SOUTH 45°07'09" EAST;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE NORTH 89°52'51" EAST 130.54 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 257.50 FEET;

THENCE 49.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 11°02'09" TO A POINT OF TANGENCY;

THENCE NORTH 78°50'42" EAST 64.55 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 15.00 FEET;

THENCE 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF NON-TANGENCY;

THENCE NORTH 78°50'42" EAST 10.00 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, ALSO BEING THE EASTERLY LINE OF SAID THERMO-FARMS;

THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE AND ALONG SAID EASTERLY LINE SOUTH 11°09'18" EAST 243.80 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33, ALSO BEING THE SOUTH LINE OF SAID THERMO-FARMS;

THENCE ALONG SAID SOUTH LINES NORTH 89°52'26" WEST 1498.55 FEET TO THE WESTERLY LINE OF SAID THERMO-FARMS;

THENCE ALONG SAID WESTERLY LINE THE FOLLOWING FIVE (5) COURSES:

1. NORTH 39°06'23" EAST 246.83 FEET;
2. NORTH 16°42'35" EAST 177.01 FEET;
3. NORTH 02°13'20" WEST 191.53 FEET;
4. NORTH 11°45'35" WEST 367.88 FEET;
5. NORTH 29°31'20" WEST 434.19 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 657,401 658,877 SQUARE FEET, OR 15.09 15.13 ACRES, MORE OR LESS.

RESIDENTIAL DESIGN STANDARDS VARIANCES

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

Sheet List Table	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES, LEGEND & TYPICAL SECTIONS
3	PHASING PLAN
4	OVERALL UTILITY
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5	GESC INITIAL
6	GESC INITIAL
7	GESC INITIAL
8	GESC INITIAL
9	GESC INITIAL
10	GESC INITIAL
11	GESC INTERIM
12	GESC INTERIM
13	GESC INTERIM
14	GESC INTERIM
15	GESC INTERIM
16	GESC INTERIM
17	GESC FINAL
18	GESC FINAL
19	GESC FINAL
20	GESC FINAL
21	GESC FINAL
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23	GESC DETAILS
24	GESC DETAILS
OVERLOT GRADING	
25	OVERLOT GRADING PLAN
26	OVERLOT GRADING PLAN
27	OVERLOT GRADING PLAN
28	OVERLOT GRADING PLAN
29	OVERLOT GRADING PLAN
30	OVERLOT GRADING PLAN
DETAIL GRADING	
31	DETAIL GRADING PLAN
STREET PLAN & PROFILE	
32	COLLEGE AVE.
33	TEANO ST.
SANITARY SEWER PLAN & PROFILE	
34	COLLEGE AVE.
35	TEANO ST.
STORM SEWER PLAN & PROFILE	
36	STORM 10 & 14
WATER PLAN	
37	COLLEGE AVE.
38	TEANO ST.
IRRIGATION PLAN	
39	COLLEGE AVE.
40	TEANO ST.
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41	STREET DETAILS
42	SANITARY DETAILS
43	SANITARY & GRADING DETAILS
44	WATER DETAILS
45	WATER DETAILS
46	WATER DETAILS
SIGNAGE & STRIPING	
47	SIGNAGE & STRIPING

CITY ENGINEER'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

MAYOR'S CERTIFICATE:
THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE _____ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

OWNER:
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACAURTHER BLVD.,
SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

CIVIL ENGINEER:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

SURVEYOR:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

CITY OF FORT LUPTON:
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

XCEL ENERGY(GAS):
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

UNITED POWER (ELEC):
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

CENTURYLINK (FIBER OPTIC):
5324 WADSWORTH BYP.,
SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ DATE
DANIEL J. RODRIGUEZ, P.E.
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD. SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-FS-COVER SHEET.DWG

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WITH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.

3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.

4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.

6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.

7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.

9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.

10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.

11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.

12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.

13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.

15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.

18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

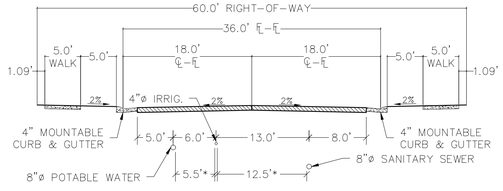
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

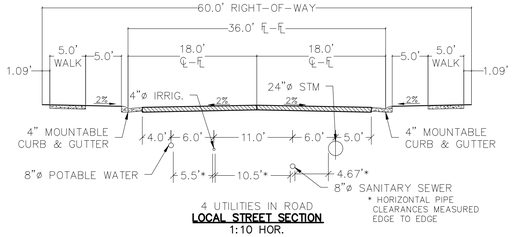
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



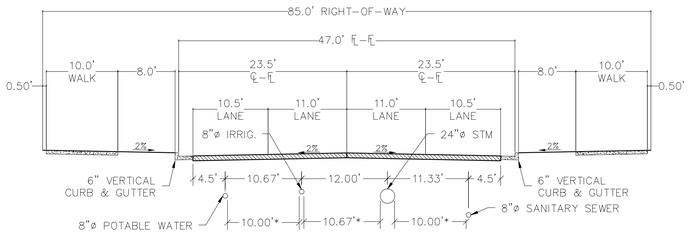
3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
COLLECTOR ROAD SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- SS EXISTING SANITARY
- S PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- W W EXISTING WATER
- W PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- IRR IRR EXISTING IRRIGATION LINE
- GAS EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- OHE EXISTING OVERHEAD ELECTRICAL
- E E E E EXISTING ELECTRICAL
- CATV EXISTING CABLE TV
- FO FO FO EXISTING FIBER OPTIC CABLE
- X X EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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SUITE 250
NEWPORT BEACH, CA 92660
303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

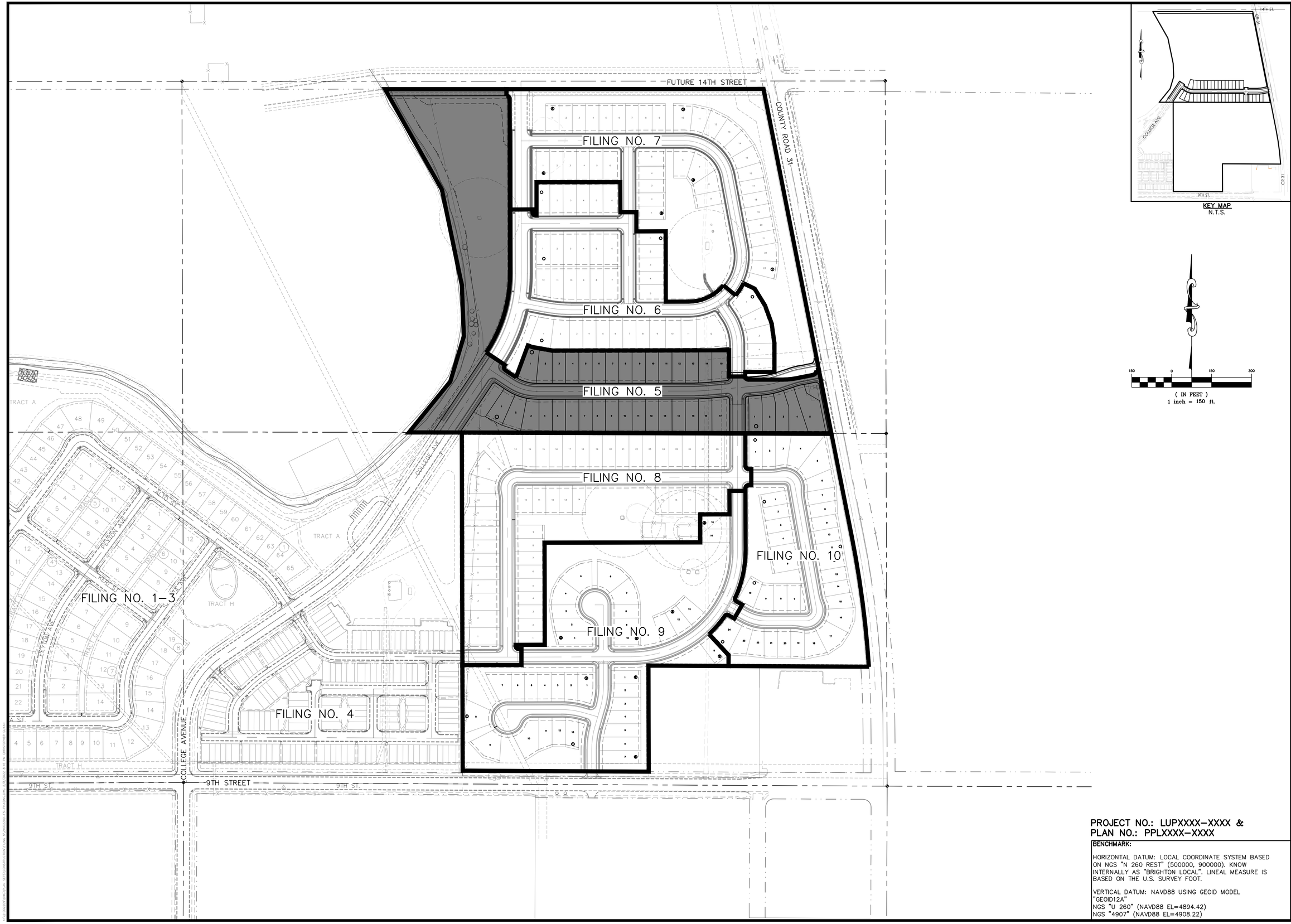
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209–FS–COVER SHEET.DWG



KEY MAP
N.T.S.

(IN FEET)
1 inch = 150 ft.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

DATE: 2/8/2022

REVISIONS

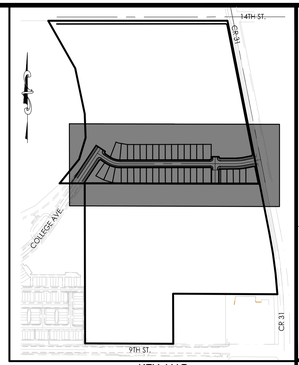
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 3

CAD FILE: 21002209-FS-PHASING.DWG

OVERALL UTILITY NOTES:

1. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 2 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
2. GAS LINE ALONG 9TH STREET IS TO REMAIN. USE CAUTION AT THE SOUTH END OF THE SITE ADJACENT TO 9TH STREET WHERE THIS LINE IS LOCATED. GAS WELL AT NORTH EAST CORNER OF SITE IS TO REMAIN. USE CAUTION AT THE NORTH EAST OF THE SITE AROUND THE WELL AND GAS LINE. GAS LINE ALONG CR 31 IS TO REMAIN. USE CAUTION AT THE EASTERN EDGE OF THE SITE ADJACENT TO CR 31.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
OVERALL UTILITY

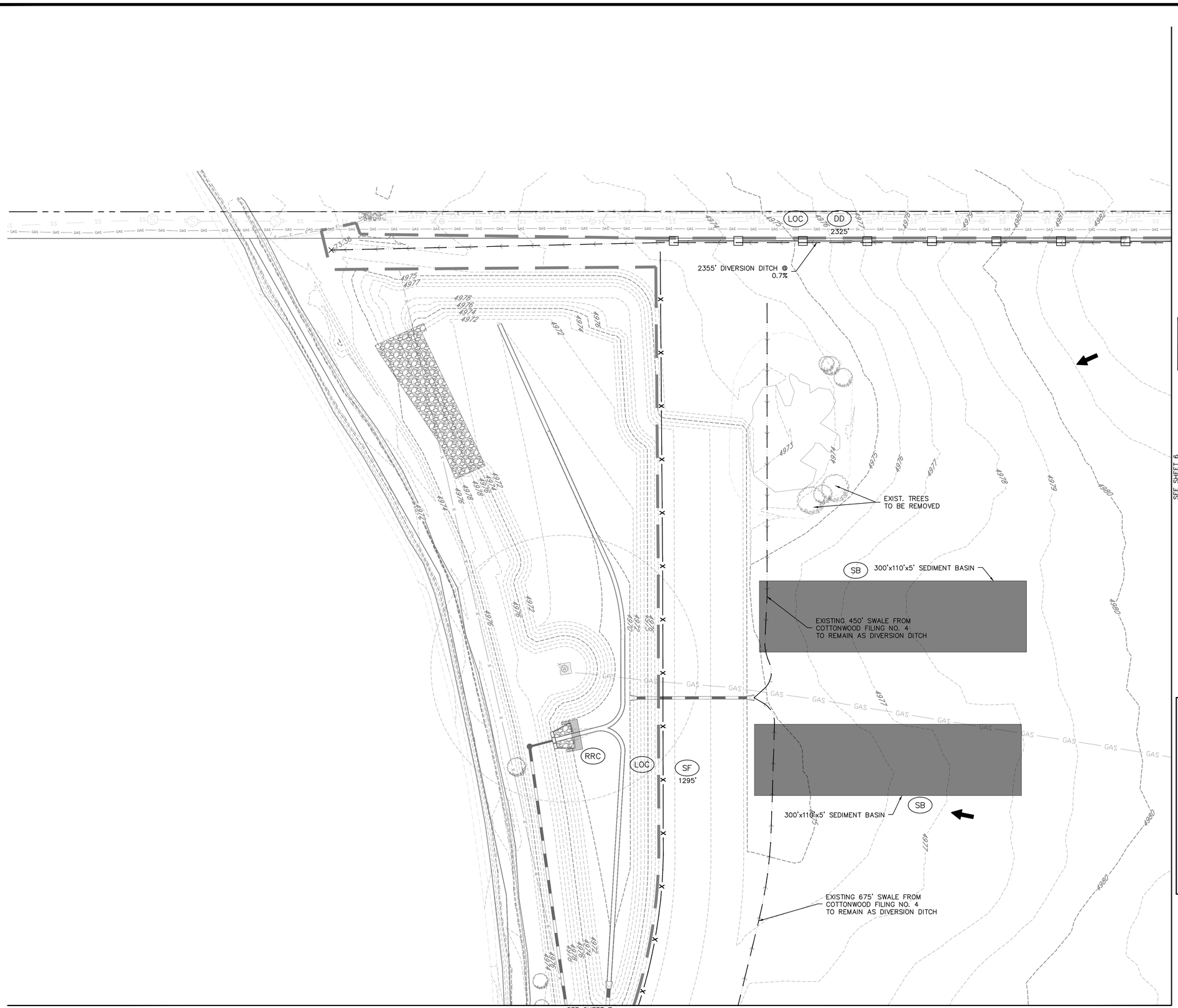
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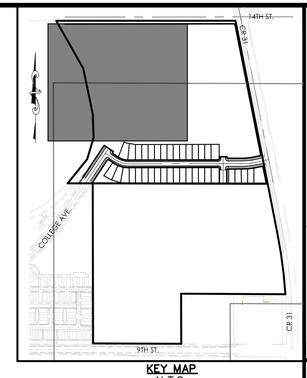
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-F5-OVERALL UTILITY.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

EXISTING GROUND CONTOURS

NOTES:

1. SEE DETAILS FOR MORE INFO ON EACH BMP NAMES AND SYMBOLS.
2. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC DRAWING AND, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY.
3. SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION.
4. THIS AREA IS INTENDED TO HAVE MINIMAL DISTURBANCE. ALL DISTURBED AREAS BETWEEN THE DEVELOPMENT AREA AND THE LOC WILL BE SEEDED AND MULCHED. THE COVERAGE AREA WILL BE DEPENDENT ON THE CONTRACTORS DISTURBED AREA. FIELD VERIFY WITH OWNER AND GESC INSPECTOR.
5. ANY SLOPES GREATER THAN 4:1 ARE REQUIRED TO HAVE EROSION CONTROL BLANKETS
6. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 7 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
7. GAS LINE ALONG 9TH STREET IS TO REMAIN. USE CAUTION AT THE SOUTH END OF THE SITE ADJACENT TO 9TH STREET WHERE THIS LINE IS LOCATED. GAS WELL AT NORTH EAST CORNER OF SITE IS TO REMAIN. USE CAUTION AT THE NORTH EAST OF THE SITE AROUND THE WELL AND GAS LINE ALONG CR 31 IS TO REMAIN. USE CAUTION AT THE EASTERN EDGE OF THE SITE ADJACENT TO CR 31.
8. PERIMETER CONTROLS AND OTHER GESC MEASURES FROM FILING NO. 5 ARE TO REMAIN UNTIL SUBSEQUENT FILINGS ARE FINALIZED. IN THE INTERIM, IF SUBSEQUENT FILINGS ARE NOT INITIATED WTHIN 30 DAYS, TEMPORARY SEEDING WILL BE REQUIRED FOR THE ENTIRETY OF THE SITE TO MINIMIZE DISTURBANCE OF THE OVERLOT GRADING.

GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC INITIAL

DATE 2/8/2022

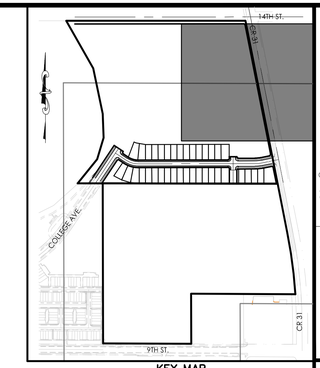
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 5

CAD FILE: 21002209-GESC INITIAL-F5.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

EXISTING GROUND CONTOURS

NOTES:

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GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
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CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
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DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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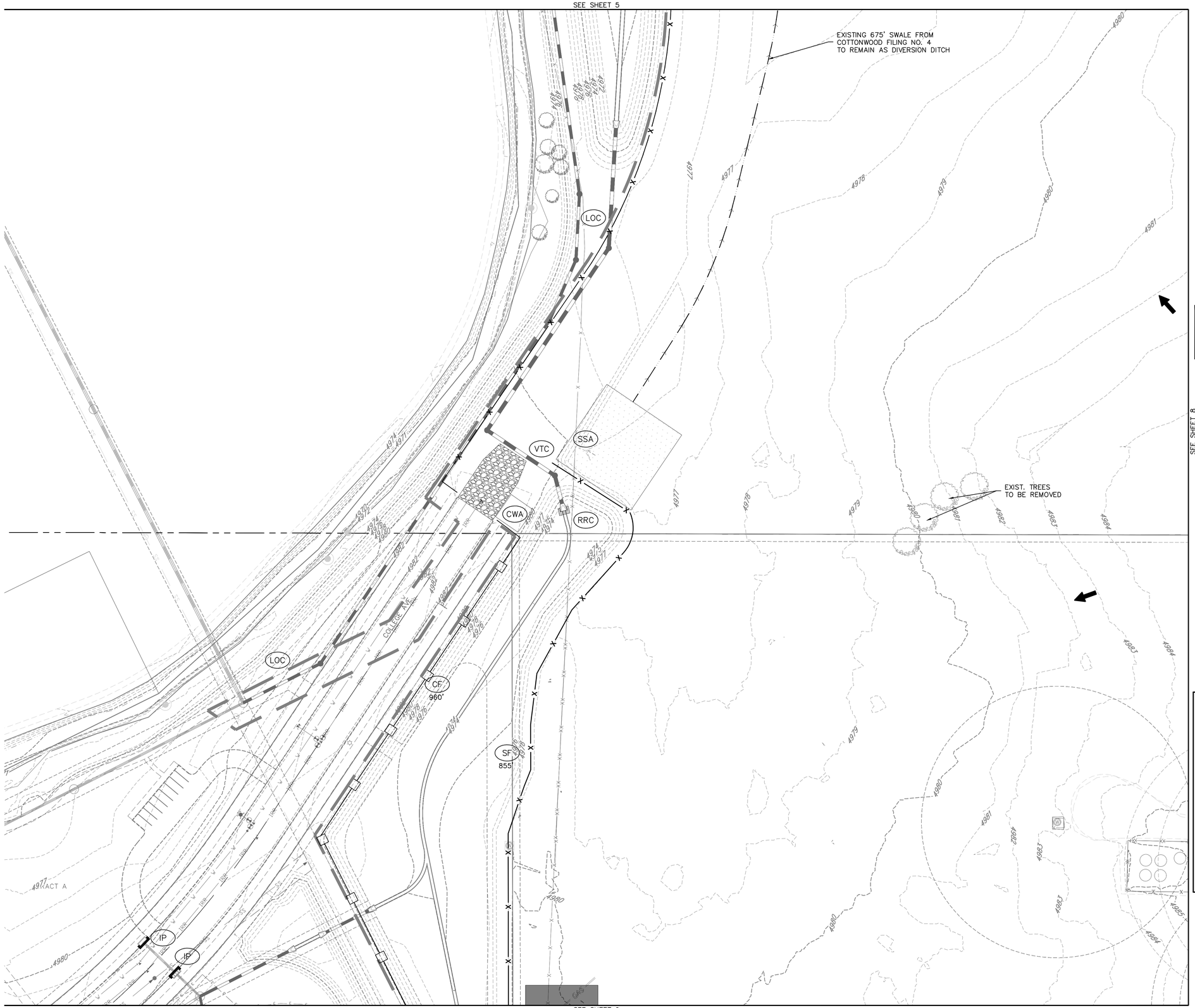
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 6

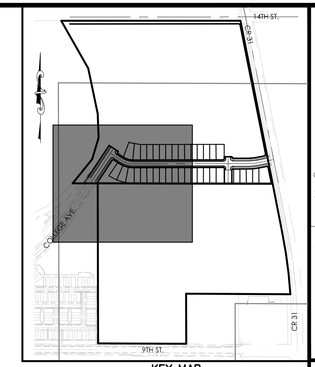
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SEE SHEET 5



SEE SHEET 8

SEE SHEET 9



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PROJECT NO.: LUPXXXX-XXXX &
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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
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DATE 2/8/2022

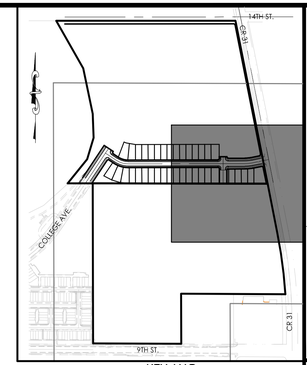
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DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 7

CAD FILE: 21002209-GESC INITIAL-F5.DWG





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N.T.S.

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

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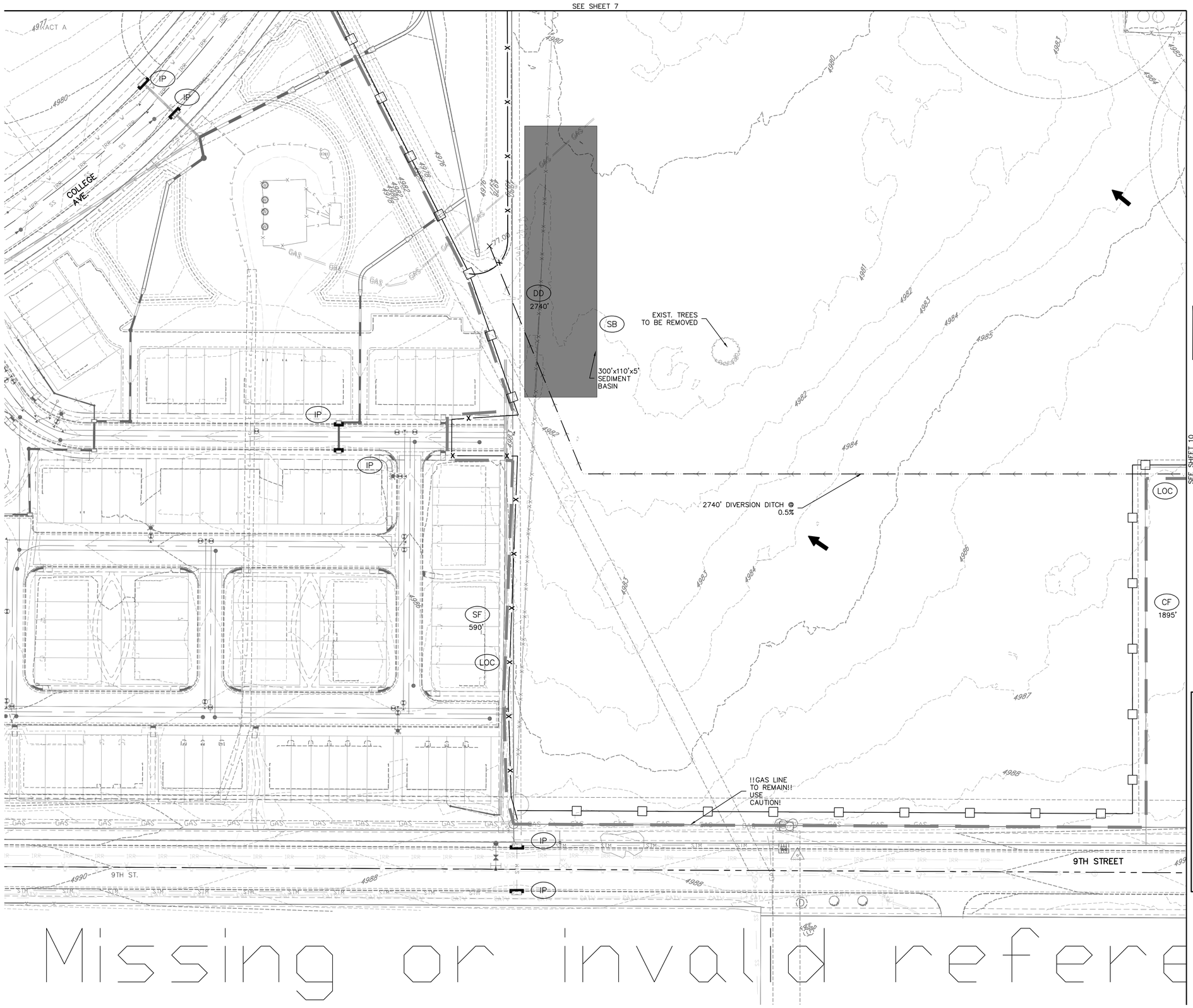
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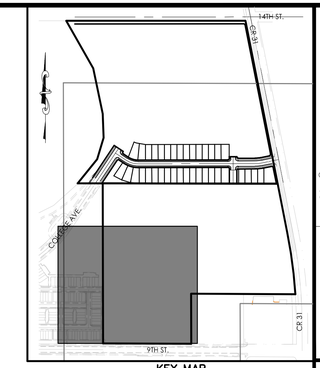
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 8

CAD FILE: 21002209-GESC INITIAL-FS.DWG





KEY MAP
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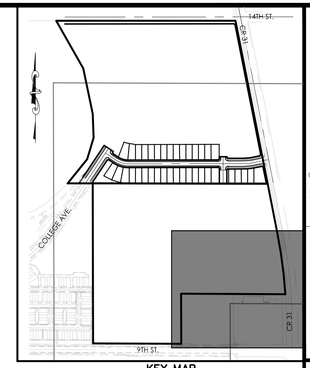
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Missing or invalid refere

SEE SHEET 8

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DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
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303.462.1100

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC INITIAL

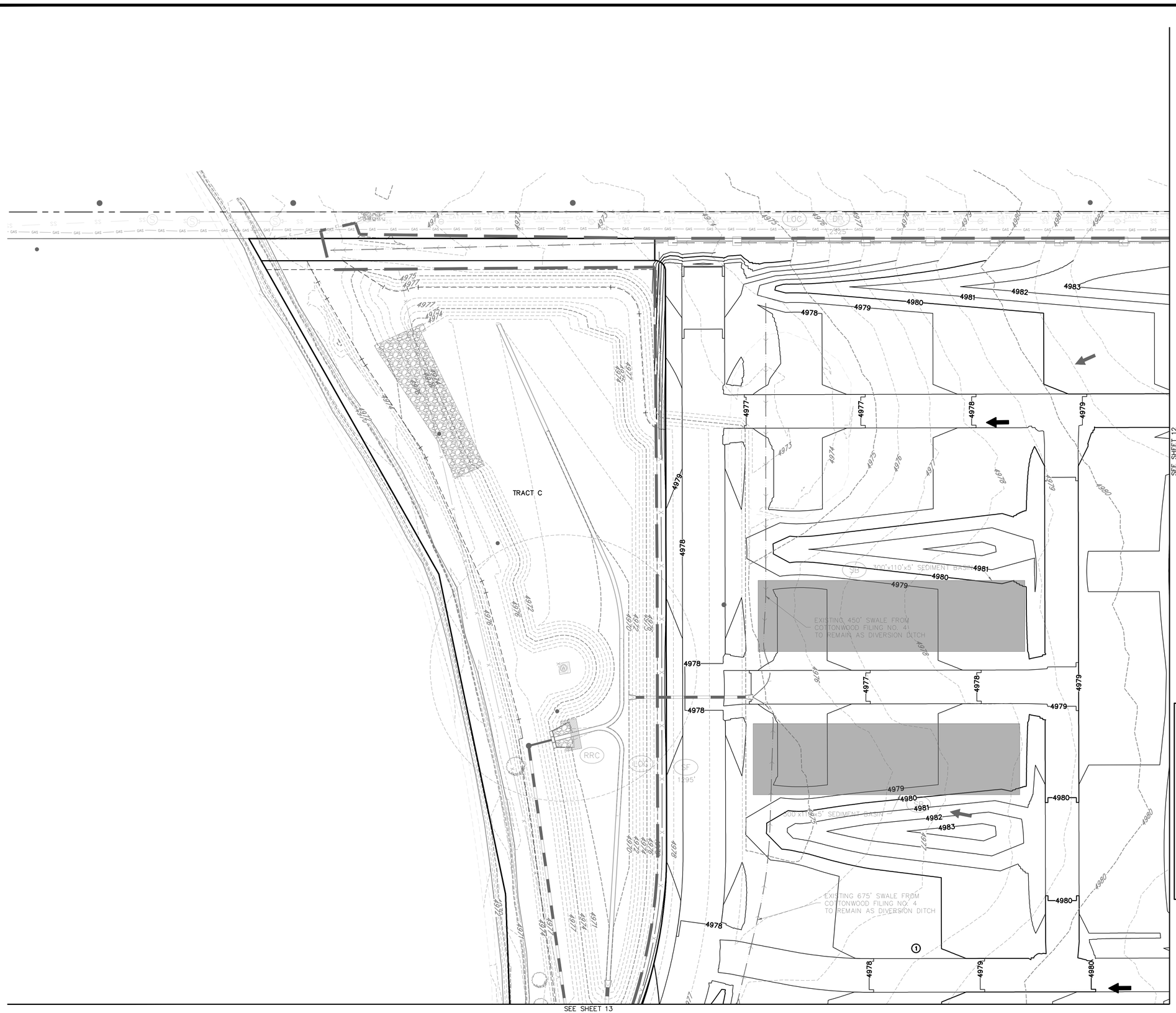
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 10

CAD FILE: 21002209-GESC INITIAL-PS.DWG
LAST DESCRIPTION MODIFICATION: [illegible]



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC INTERIM

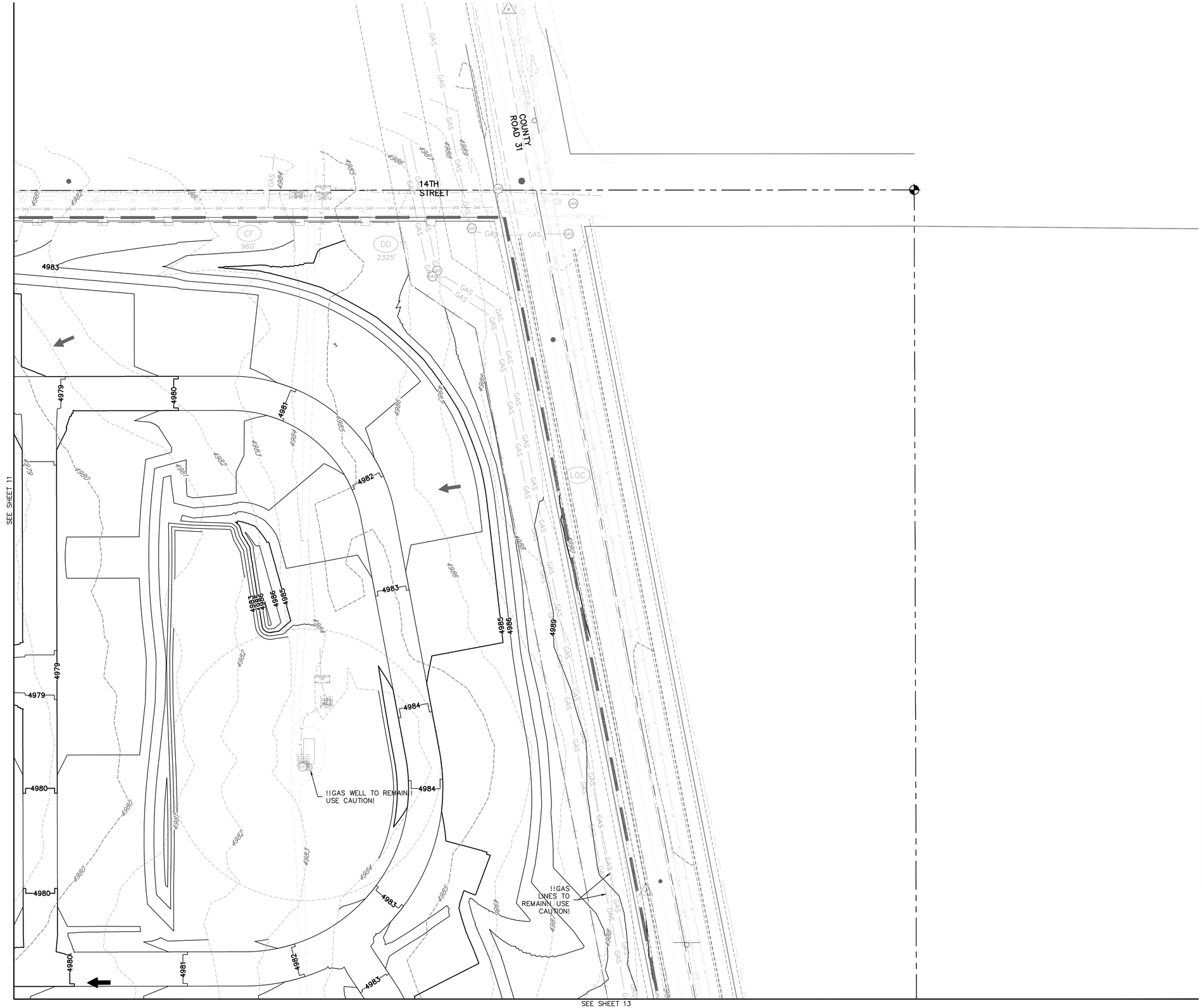
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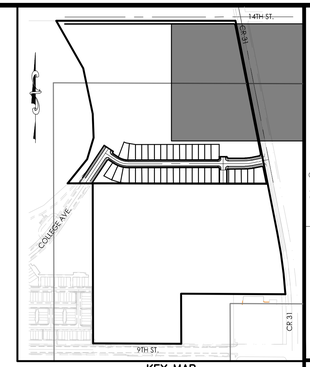
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 11

CAD FILE: 21002209-GESC INTERIM-F5.DWG





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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC INTERIM

DATE 2/8/2022

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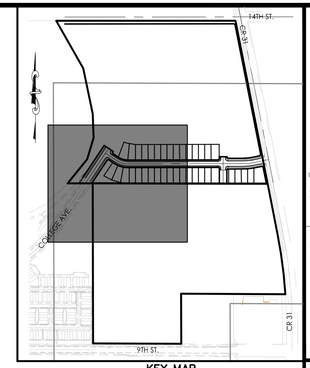
JOB 21002209

SHEET NO. 12

CAD FILE: 21002209-GESC INTERIM-F5.DWG

SEE SHEET 11





KEY MAP
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PROJECT NO.: LUPXXXX–XXXX &
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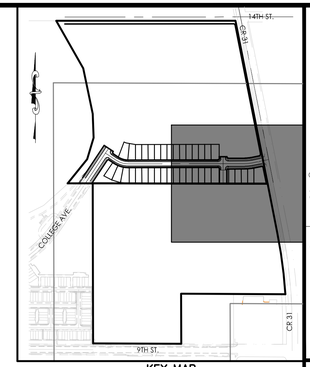
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 13

CAD FILE: 21002209-GESC INTERIM-FS.DWG
DESIGN PLAN SET/CONSTRUCTION DOCS/GESC/GESC INTERIM-FS.DWG





KEY MAP
N.T.S.

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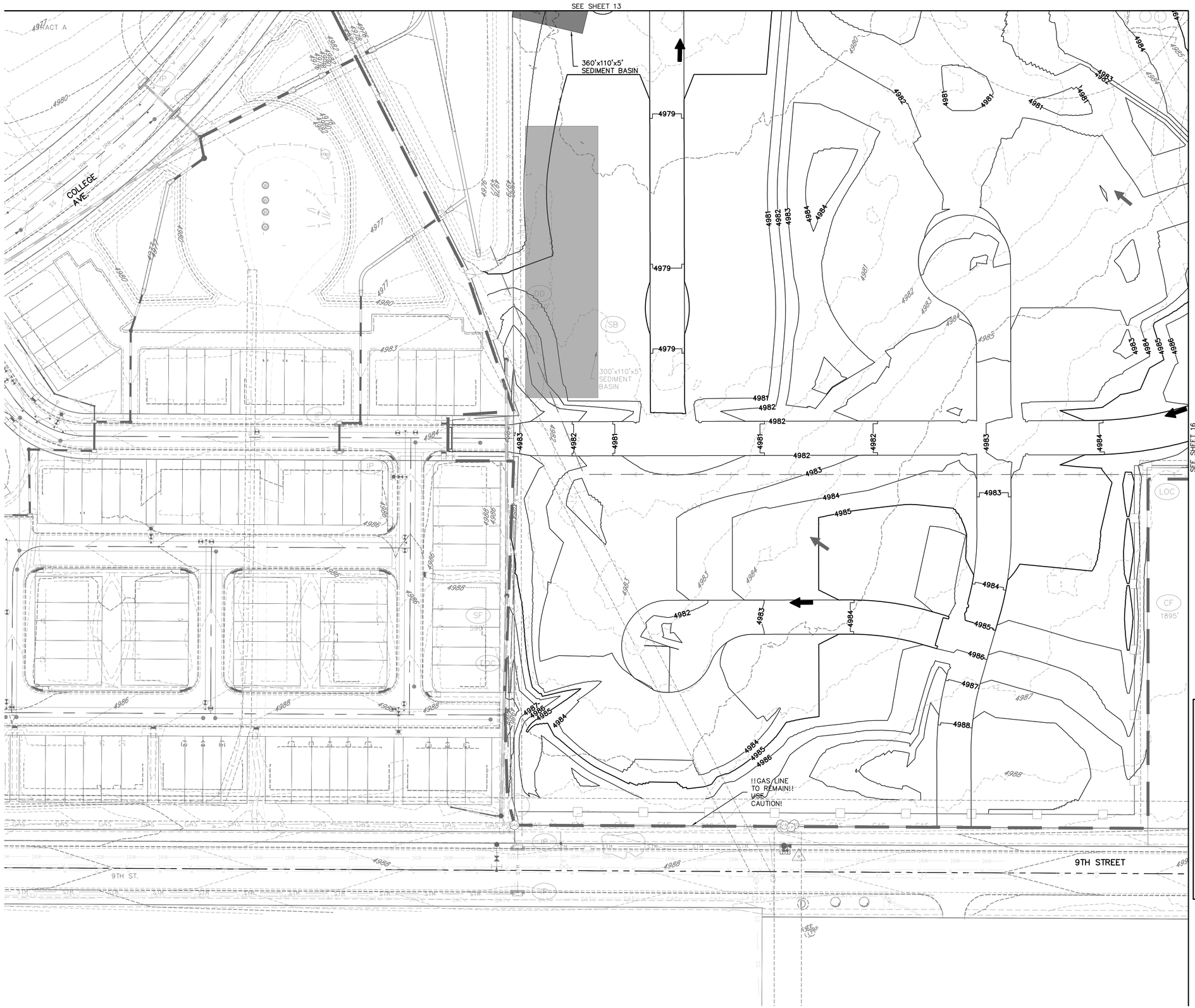
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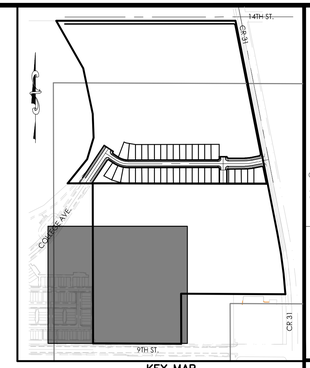
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GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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LAKEWOOD, CO 80228
303.462.1100

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COTTONWOOD DEVELOPMENT PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC INTERIM

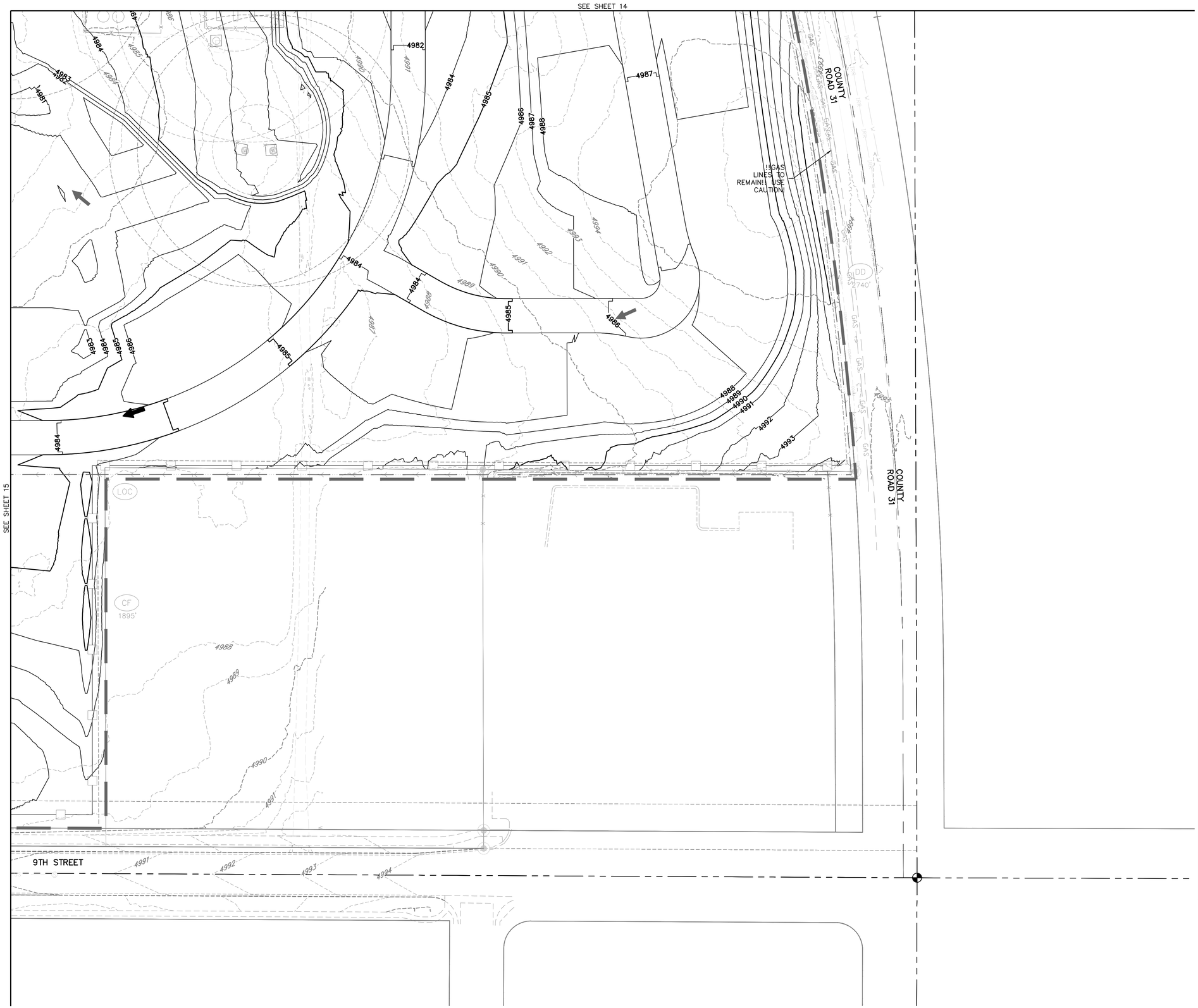
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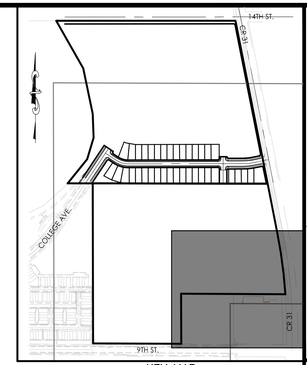
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 15

CAD FILE: 21002209-GESC INTERIM-F5.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
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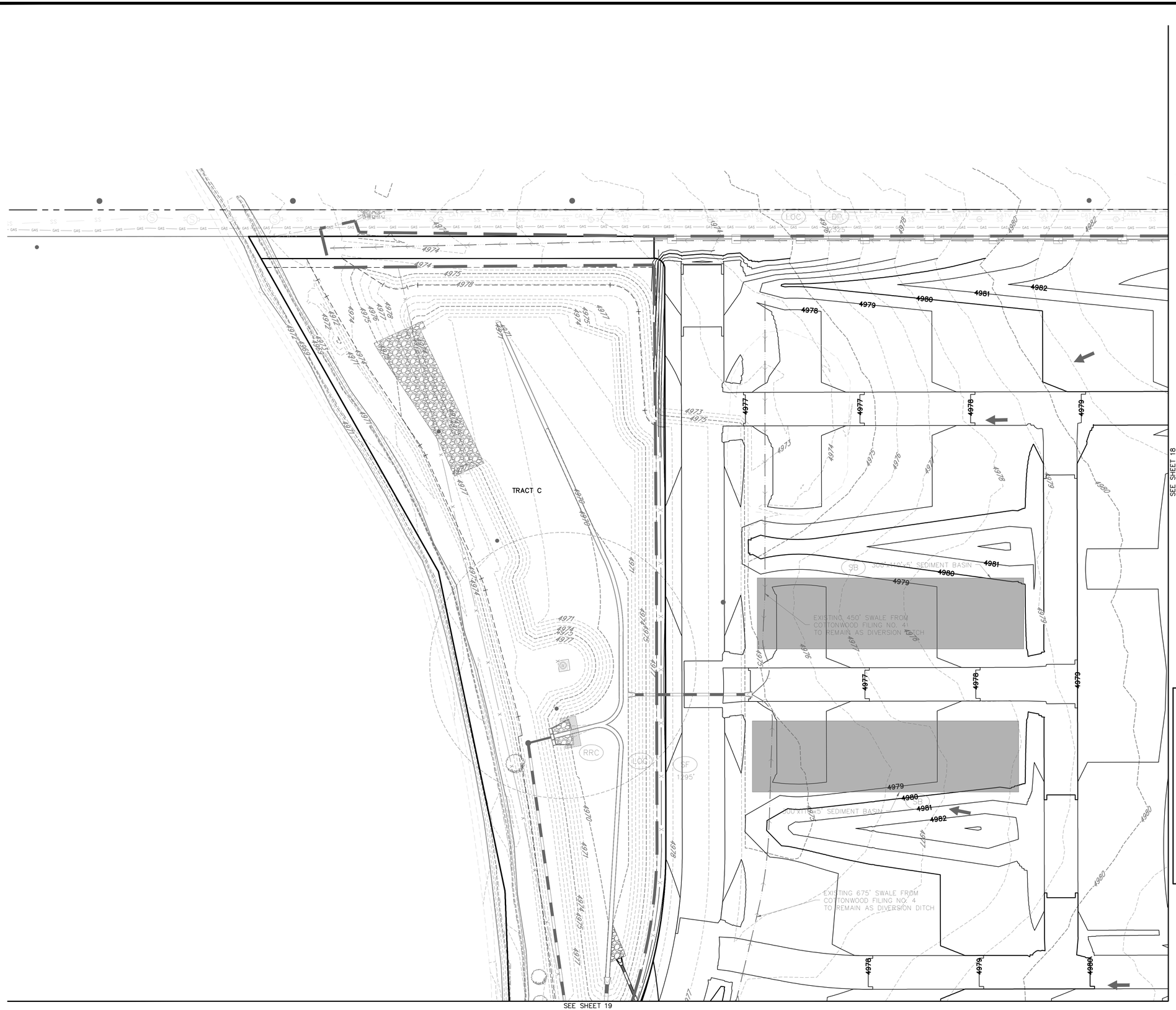
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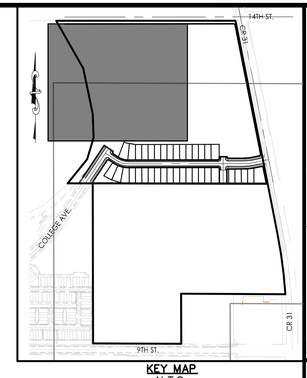
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 16

CAD FILE: 21002209-GESC INTERIM-FILING





KEY MAP
N.T.S.

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(IN FEET)
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LEGEND

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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

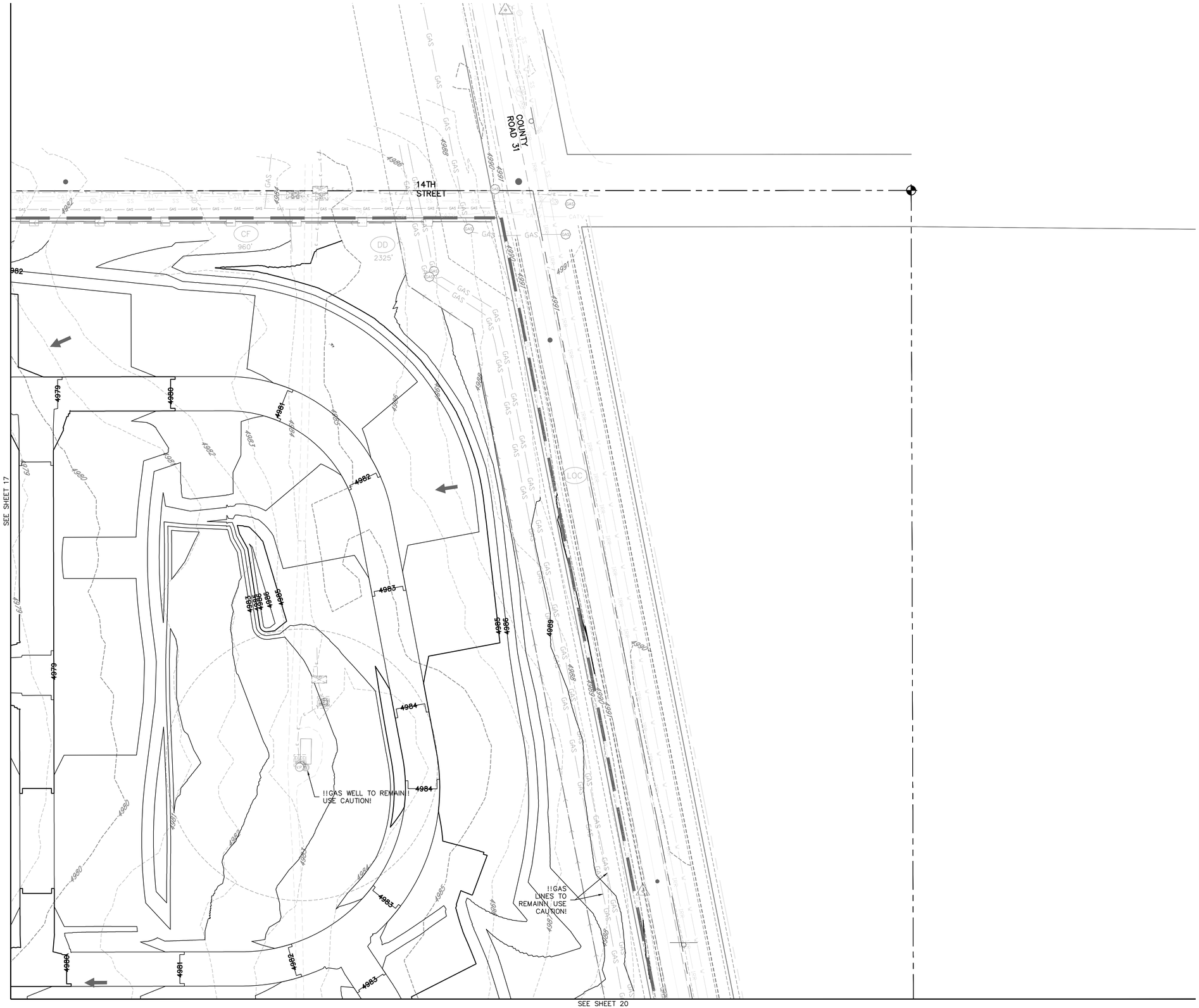
REVISIONS

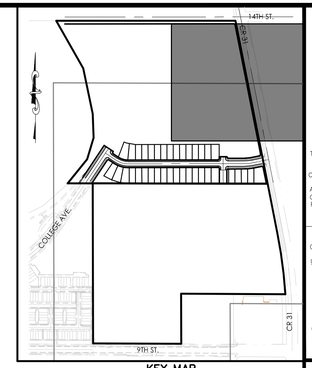
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 17

CAD FILE: 21002209-GESC FINAL-FILING

LAST SAVED BY: EPOLSON 2/8/2022 8:47 AM DESCRIPTION: GESC/CONSTRUCTION DRAWINGS/GESC SET/FINAL DESIGN/21002209-GESC FINAL-FILING.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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LEGEND
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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 18

CAD FILE: 21002209-GESC FINAL-FS.DWG

SEE SHEET xxxx

EXISTING 675' SWALE FROM COTTONWOOD FILING NO. 4 TO REMAIN AS DIVERSION DITCH

(REMOVED)

(REMOVED)

(REMOVED)

(REMOVED)

(REMOVED)

(REMOVED)

(REMOVED)

TRACT A

SM

SF 855

SB

360'x110'x5' SEDIMENT BASIN

LOC

RRC

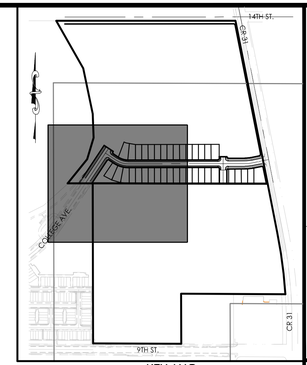
IP

VTC

COLLEGE AVE.

SEE SHEET 20

SEE SHEET 21



KEY MAP
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PROJECT NO.: LUPXXXX–XXXX &
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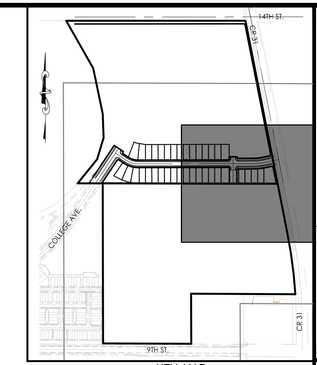
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 19

CAD FILE: 21002209-GESC FINAL-F5.DWG





KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

1. SEE DETAILS FOR MORE INFO ON EACH BMP NAMES AND SYMBOLS.
2. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC DRAWING AND, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY.
3. SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION.
4. THIS AREA IS INTENDED TO HAVE MINIMAL DISTURBANCE. ALL DISTURBED AREAS BETWEEN THE DEVELOPMENT AREA AND THE LOC WILL BE SEEDED AND MULCHED. THE COVERAGE AREA WILL BE DEPENDENT ON THE CONTRACTORS DISTURBED AREA. FIELD VERIFY WITH OWNER AND GESC INSPECTOR.
5. ANY SLOPES GREATER THAN 4:1 ARE REQUIRED TO HAVE EROSION CONTROL BLANKETS
6. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 7 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
7. GAS LINE ALONG 9TH STREET IS TO REMAIN. USE CAUTION AT THE SOUTH END OF THE SITE ADJACENT TO 9TH STREET WHERE THIS LINE IS LOCATED. GAS WELL AT NORTH EAST CORNER OF SITE IS TO REMAIN. USE CAUTION AT THE NORTH EAST OF THE SITE AROUND THE WELL AND GAS LINE ALONG CR 31 IS TO REMAIN. USE CAUTION AT THE EASTERN EDGE OF THE SITE ADJACENT TO CR 31.
8. PERIMETER CONTROLS AND OTHER GESC MEASURES FROM FILING NO. 5 ARE TO REMAIN UNTIL SUBSEQUENT FILINGS ARE FINALIZED. IN THE INTERIM, IF SUBSEQUENT FILINGS ARE NOT INITIATED WITHIN 30 DAYS, TEMPORARY SEEDING WILL BE REQUIRED FOR THE ENTIRETY OF THE SITE TO MINIMIZE DISTURBANCE OF THE OVERLOT GRADING.

GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC FINAL

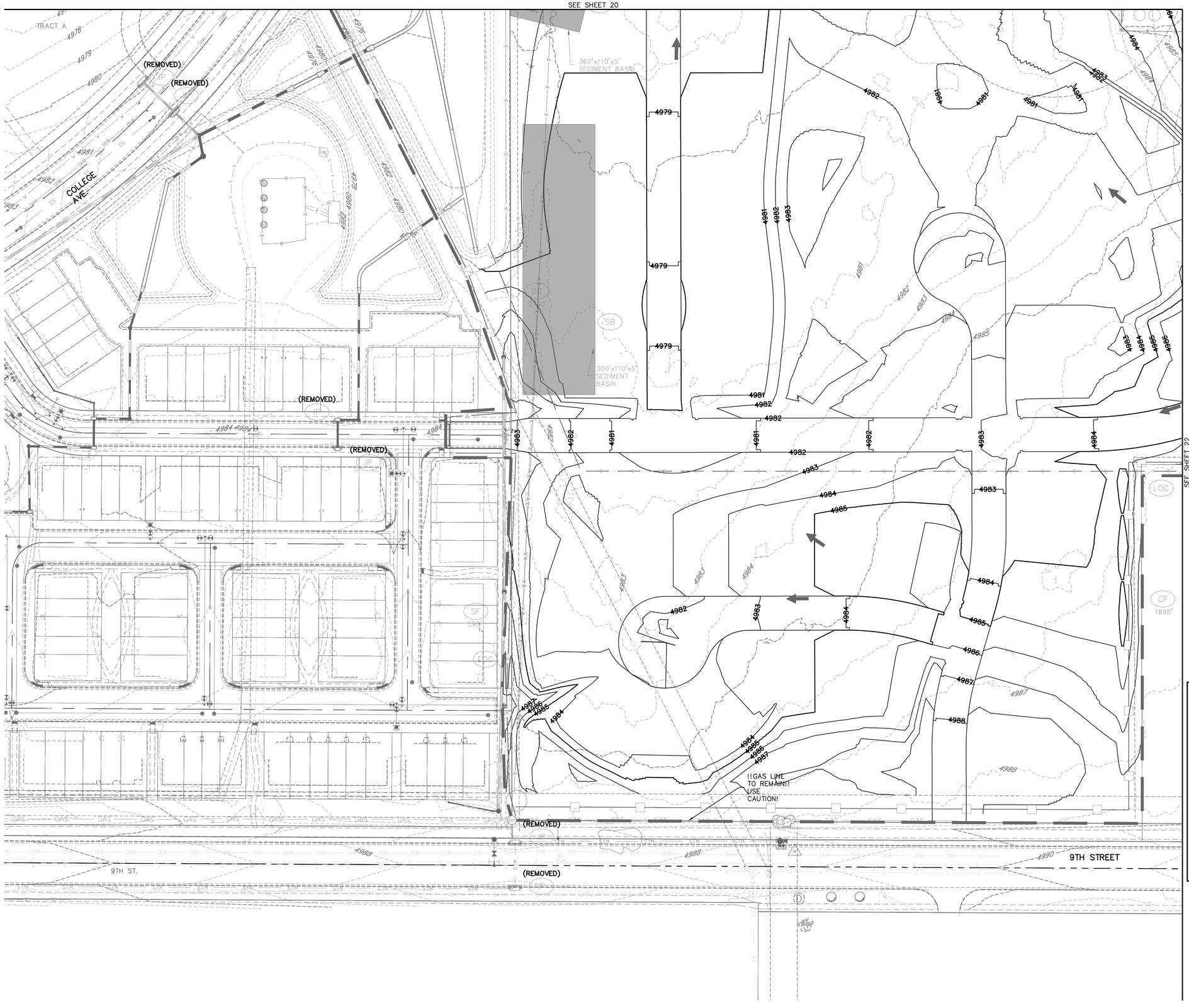
DATE 2/8/2022

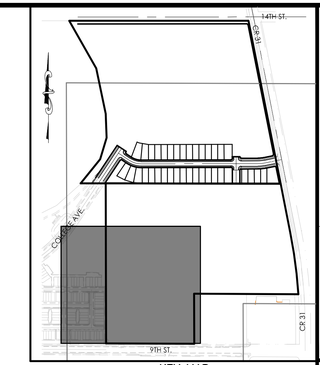
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 20

CAD FILE: 21002209-GESC FINAL-F5.DWG





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N.T.S.

50 0 50 100
(IN FEET)
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC FINAL

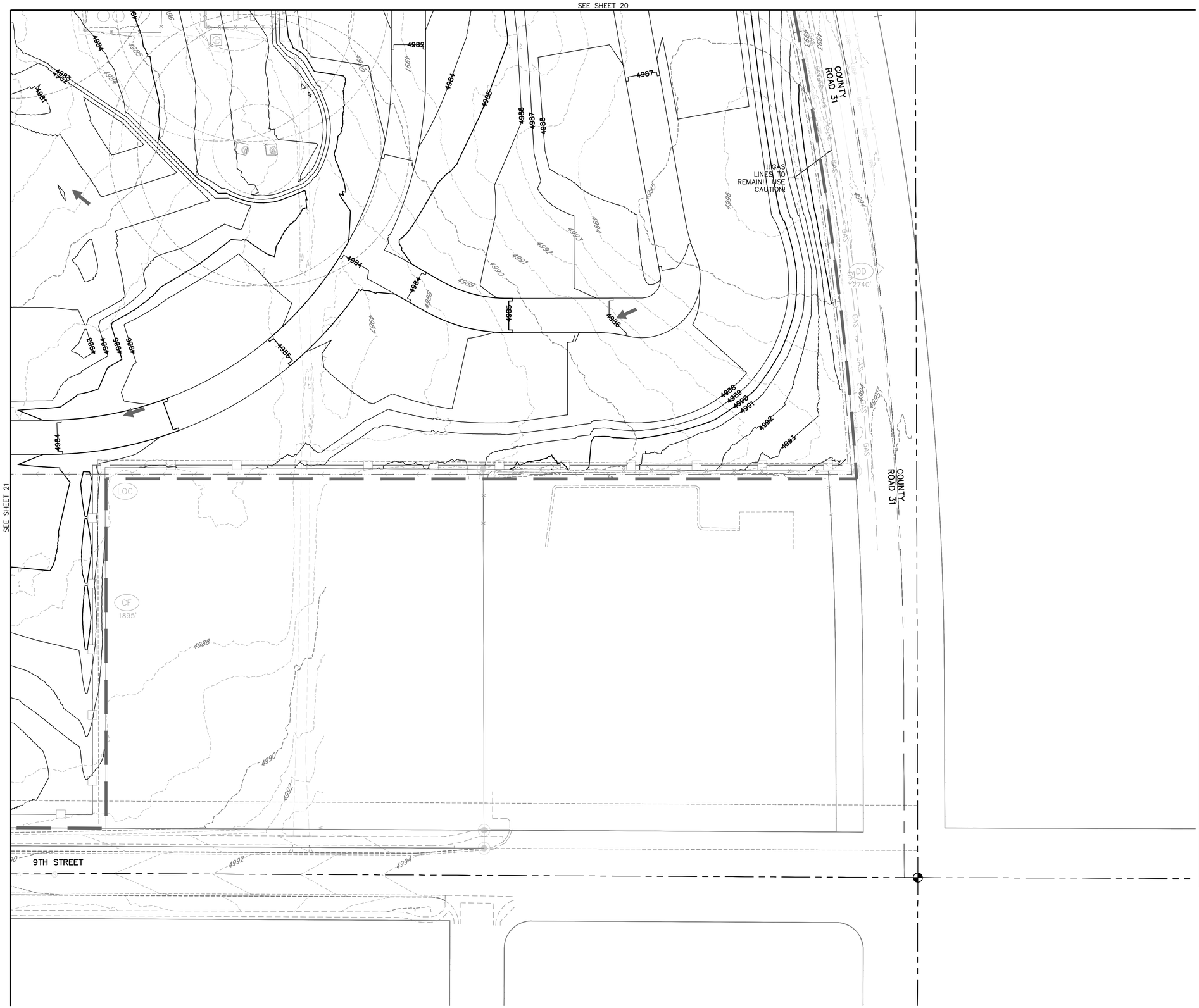
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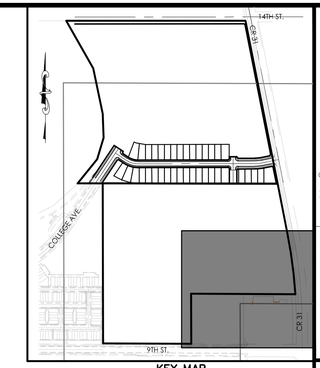
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 21

CAD FILE: 21002209-GESC FINAL-FS.DWG





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(IN FEET)
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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 22

CAD FILE: 21002209-GESC FINAL-FILDNG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

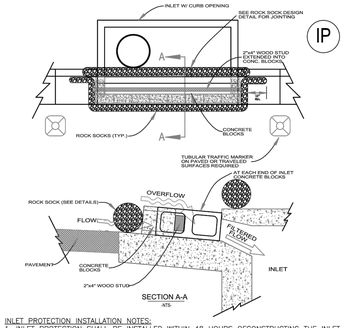
DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

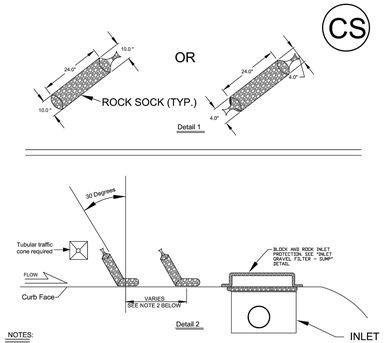
TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14



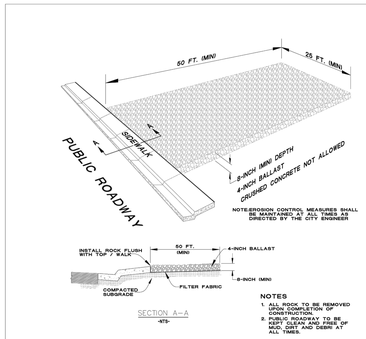
INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14



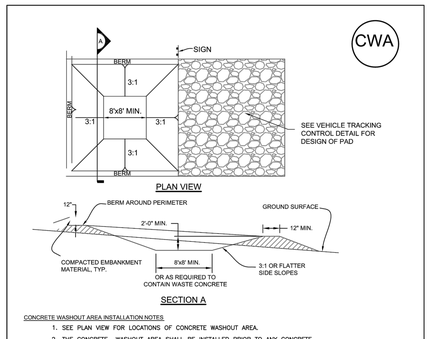
NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

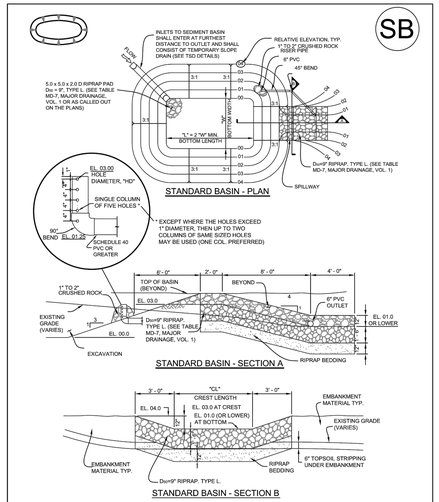
DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14

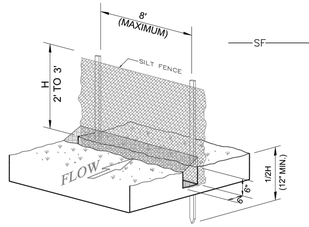


CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TRCUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

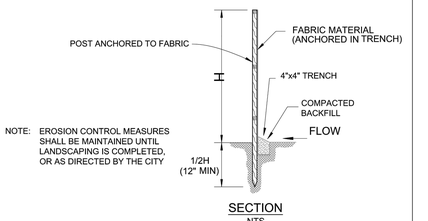
DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14


SB
INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF TEMPORARY SLOPE DRAIN (SEE TSD DETAILS)
RELATIVE ELEVATION, TYP. 4"TO 6" DIA FINISHED ROCK RIDGE (RR)
6" PVC
45° BEND
5.0 x 5.0 x 2.0 D RIPRAP PAD Do = 9", TYPE L, (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 OR AS CALLED OUT ON THE PLANS)
W BOTTOM WIDTH
3:1
3:1
3:1



SILT FENCE INSTALLATION

-NTS-



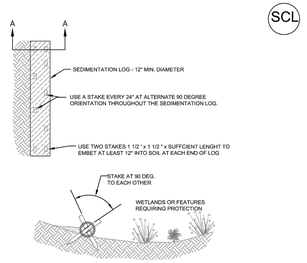
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

DESIGN STANDARDS	STANDARD DRAWING
SILT FENCE	EC 15
	DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

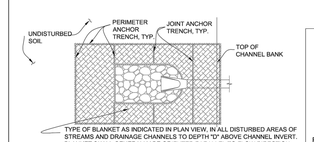
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

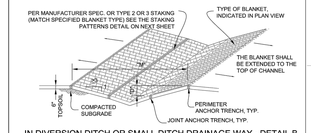
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT CONTROL LOGS	EC 16
	DATE: 8/15/14

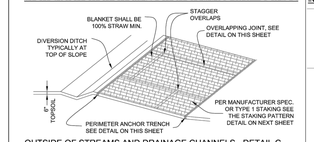
ECB



AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

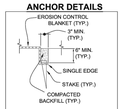


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B

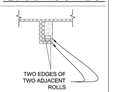


OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

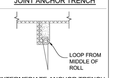
ANCHOR DETAILS



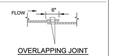
PERIMETER ANCHOR TRENCH



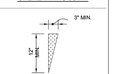
JOINT ANCHOR TRENCH



INTERMEDIATE ANCHOR TRENCH



OVERLAPPING JOINT

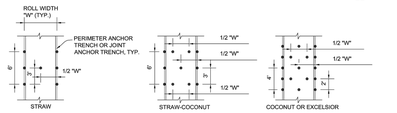


WOOD STAKE DETAIL

MINIMUM ACCEPTABLE USE 2x4 MATERIAL FOR STAKES

DESIGN STANDARDS	STANDARD DRAWING
EROSION BLANKET DETAILS	EC 17
	DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*		100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%		-	DOUBLE/NATURAL
EXCELSIOR			100%	DOUBLE/NATURAL

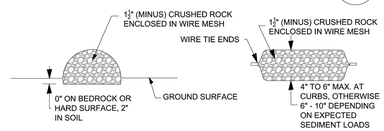
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

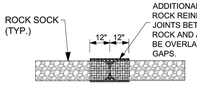
DESIGN STANDARDS	STANDARD DRAWING
EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
	DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

DESIGN STANDARDS	STANDARD DRAWING
ROCK SOCK DETAIL	EC 19
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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LAKEWOOD, CO 80228
303.462.1100

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4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

REVISIONS

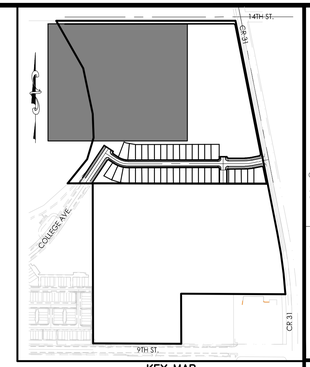
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 24

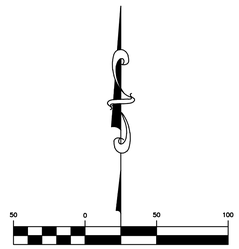
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KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft.

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NOTES:

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5. FUTURE FILINGS ARE SHOWN FOR REFERENCE ONLY. SEE INDIVIDUAL FILINGS FOR DETAIL GRADING.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

DATE 2/8/2022

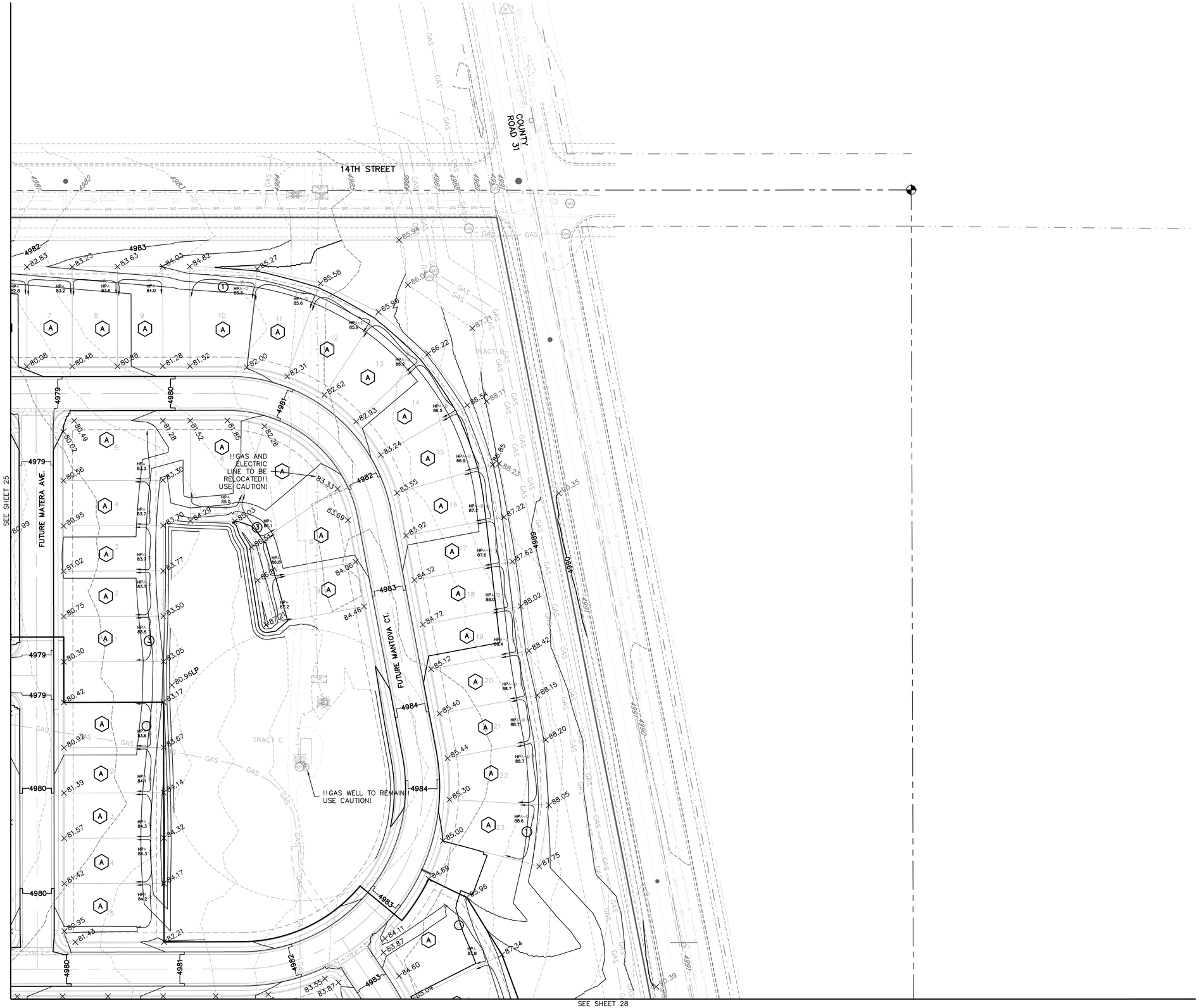
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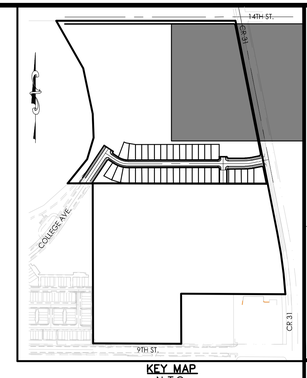
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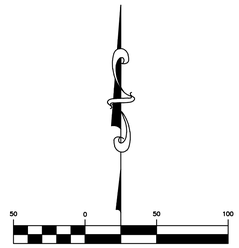
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KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft.

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CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

DATE 2/8/2022

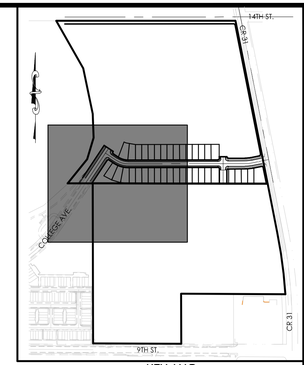
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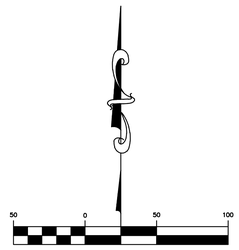
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141H ST.
CR 31
COLLEGE AVE
9TH ST.

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CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

DATE 2/8/2022

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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SEE SHEET 27

SEE SHEET 30

FUTURE STRADA ST.

FUTURE ROMA AVE.

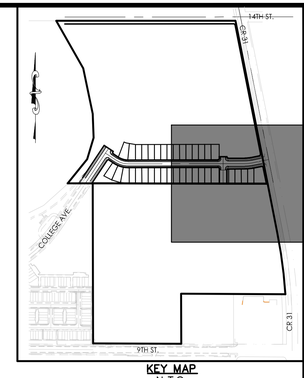
FUTURE SISTO AVE.

COUNTY ROAD 31

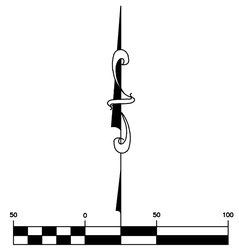
TRACT B

TRACT C

TRACT D



KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft.

811
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NOTES:

1. ALL ELEVATIONS SHOWN ON THIS PLAN ARE OVERLOT GRADE, UNLESS NOTES OTHERWISE.
2. SEE SHEET 43 FOR OVERLOT TEMPLATES.
3. ENTIRE PROPERTY IS TO BE OVERLOT GRADED AT ONE TIME.
4. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.
5. FUTURE FILINGS ARE SHOWN FOR REFERENCE ONLY. SEE INDIVIDUAL FILINGS FOR DETAIL GRADING.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

DEVELOPER
COTTONWOOD DEVELOPMENT PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

DATE 2/8/2022

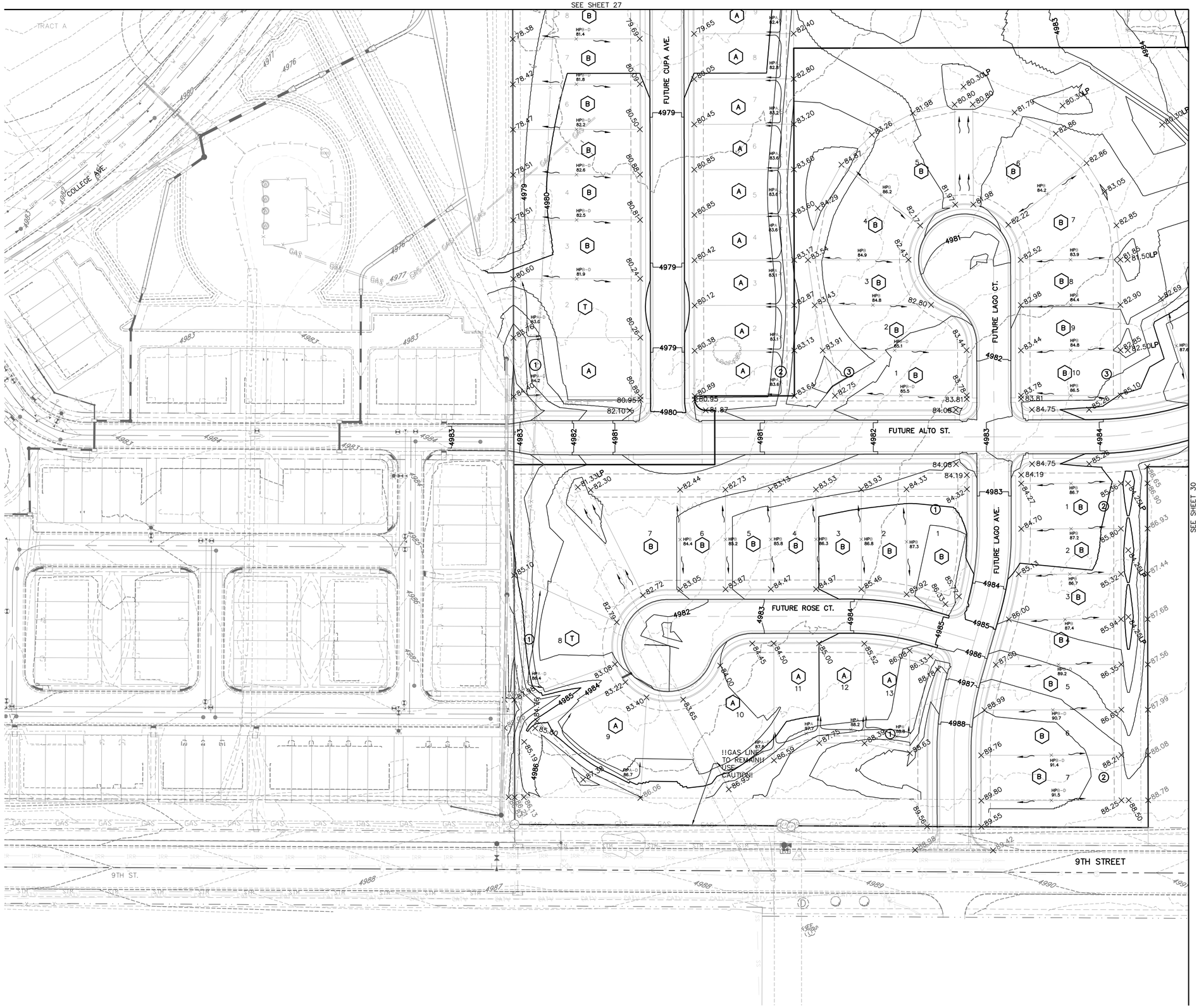
REVISIONS

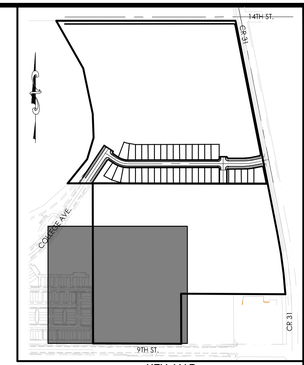
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 28

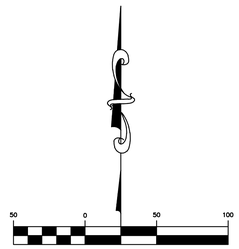
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SEE SHEET 27





KEY MAP
N.T.S.



(IN FEET)
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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

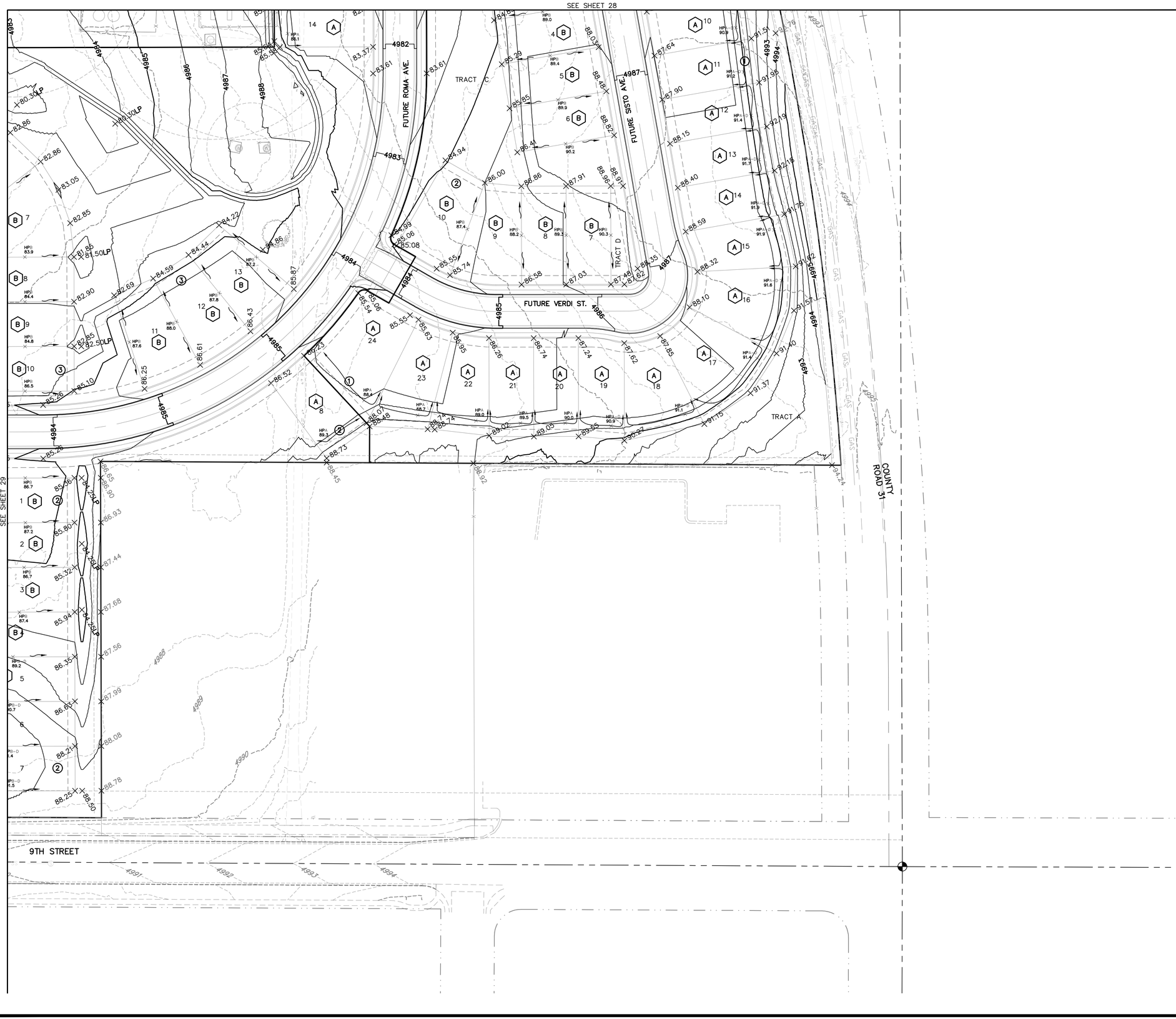
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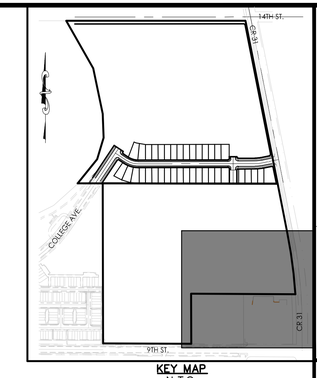
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

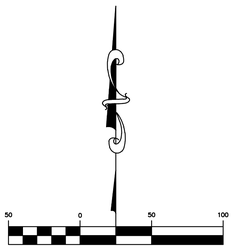
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P.M. DJR
JOB 21002209
SHEET NO. 29

CAD FILE: 21002209-FS-OVERLOT GRADING.DWG





KEY MAP
N.T.S.



(IN FEET)
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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CLIENT
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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERLOT GRADING
OVERLOT GRADING PLAN

DATE 2/8/2022

REVISIONS

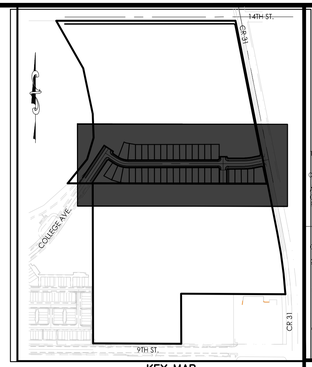
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 30

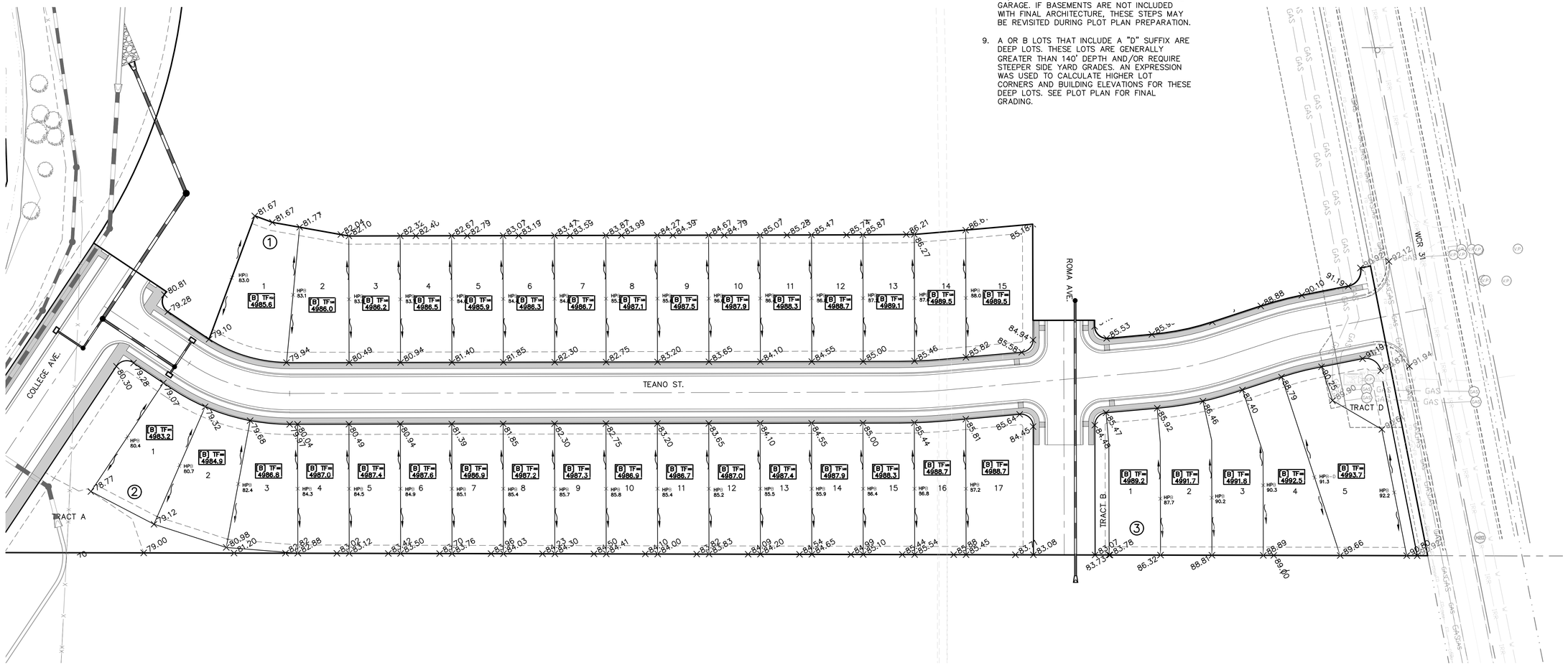
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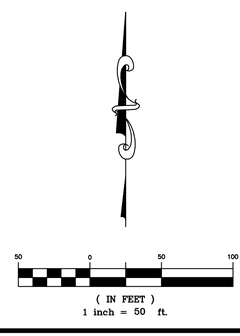
NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.



KEY MAP
N.T.S.





(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

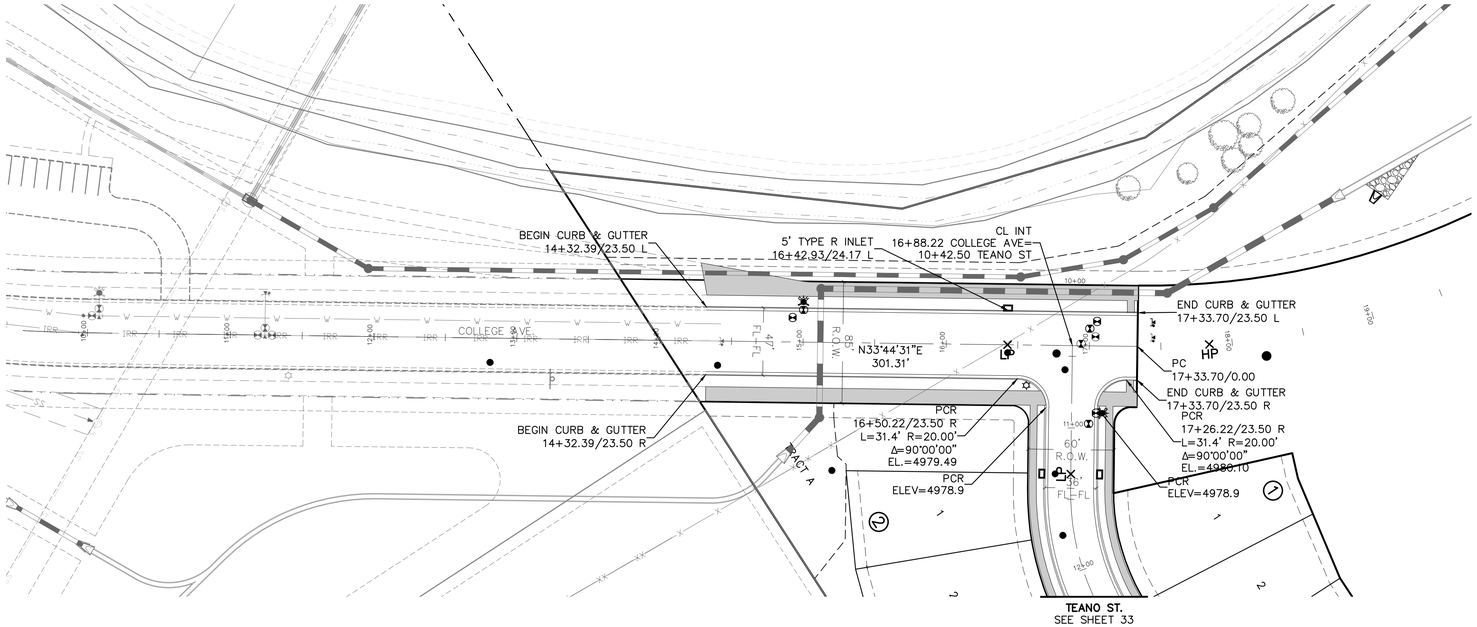
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REVISIONS

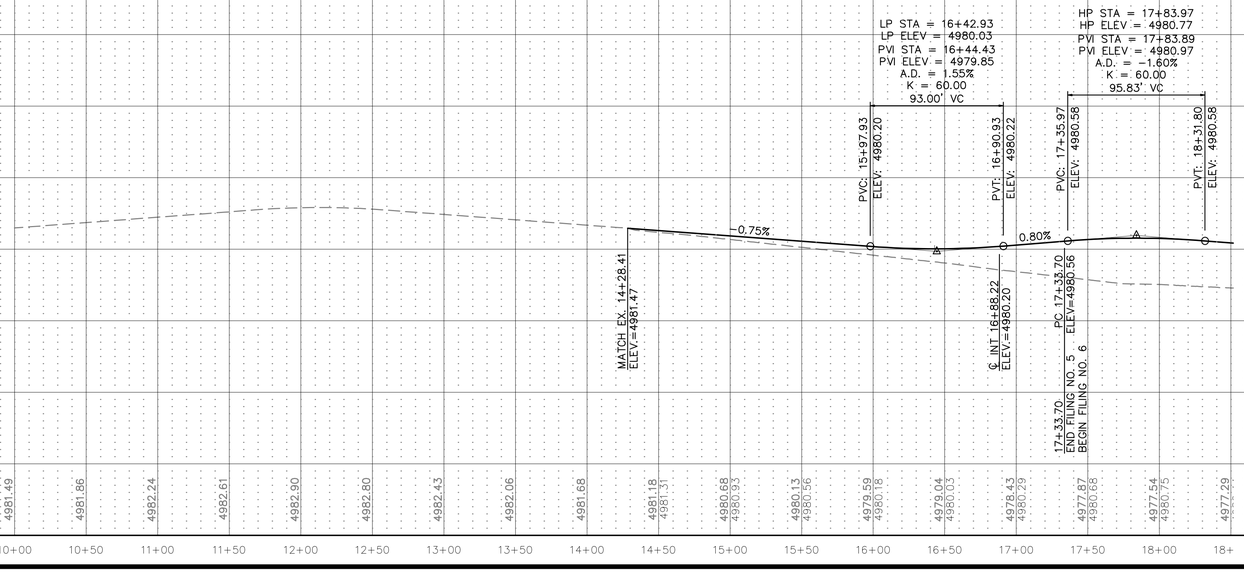
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

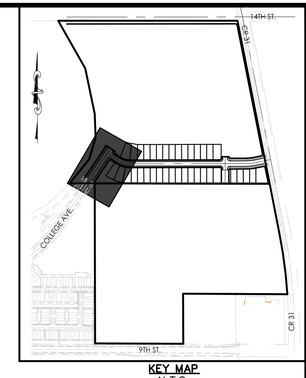
DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 31

CAD FILE: 21002209-FS-DETAIL GRADING.DWG



COLLEGE AVE.





KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
COLLEGE AVE.

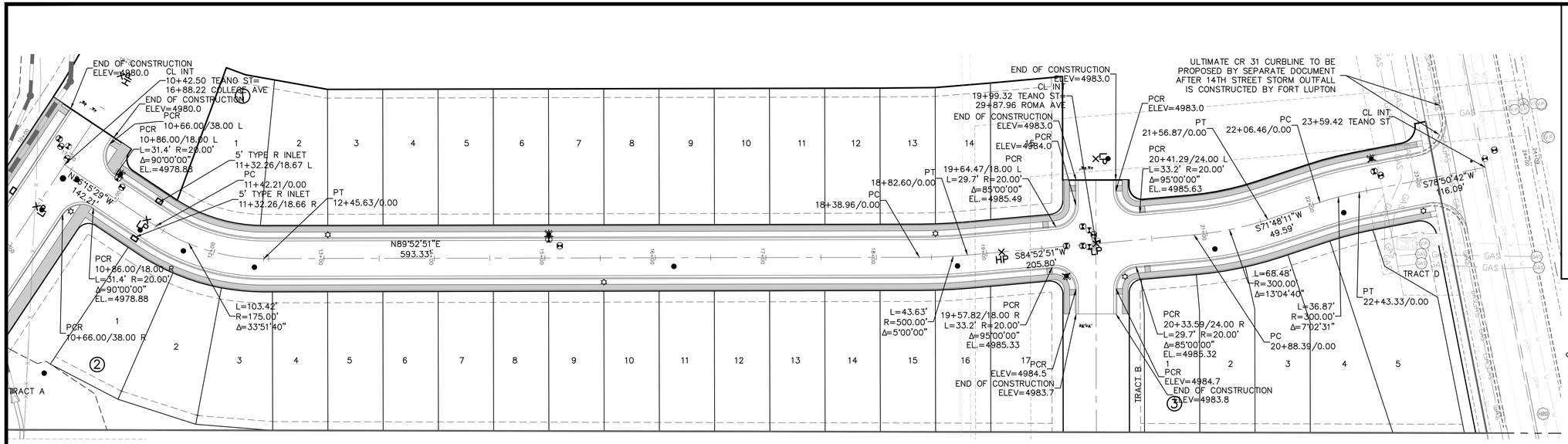
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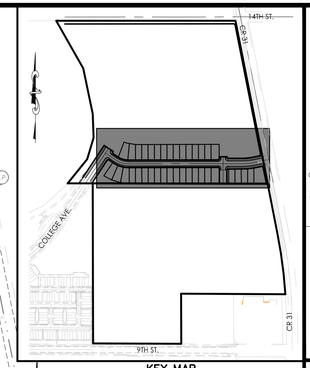
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P.M. DJR
JOB 20002948
SHEET NO. 32

CAD FILE: 21002209-FS-COLLEGE AVE.DWG





KEY MAP
N.T.S.

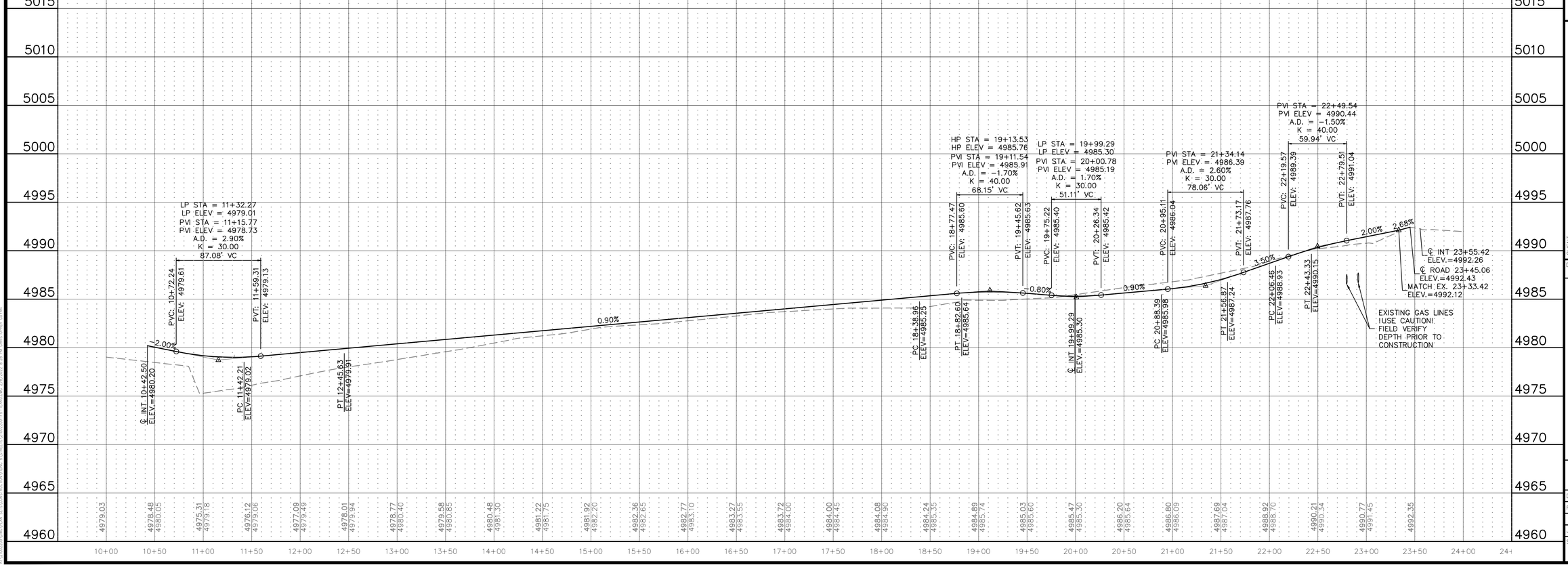
(IN FEET)
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PLAN NO.: PPL2021-XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
TEANO ST.

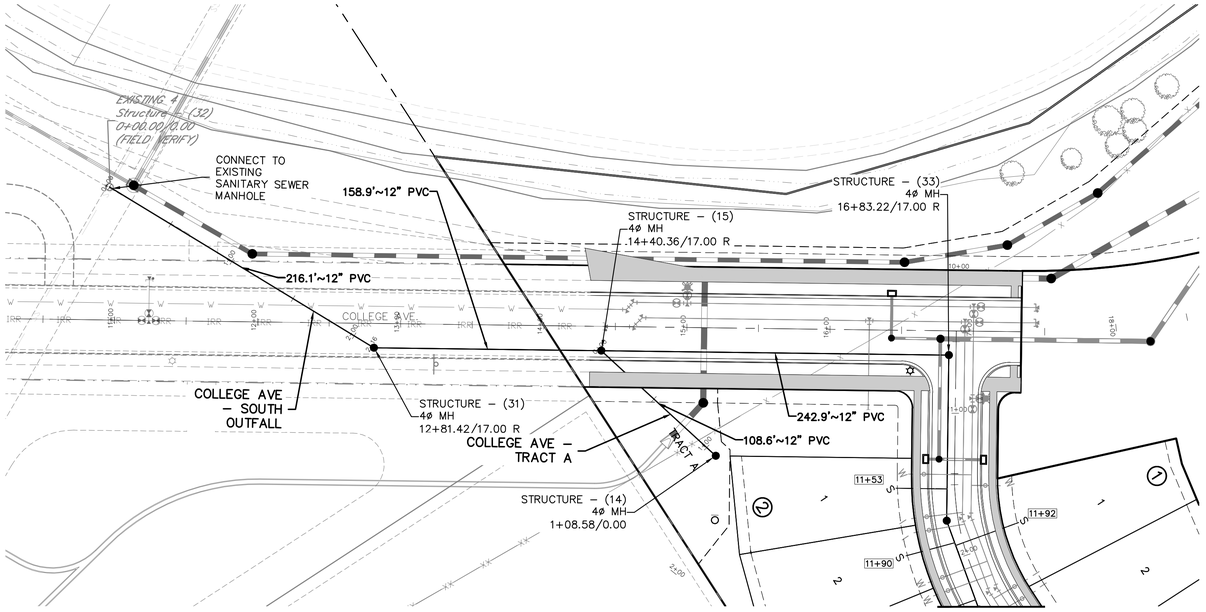
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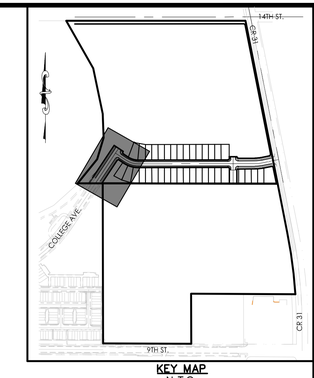
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P.M. DJR
JOB 20002948
SHEET NO. 33

CAD FILE: 21002269-FS-TEANO.DWG



COLLEGE AVE.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

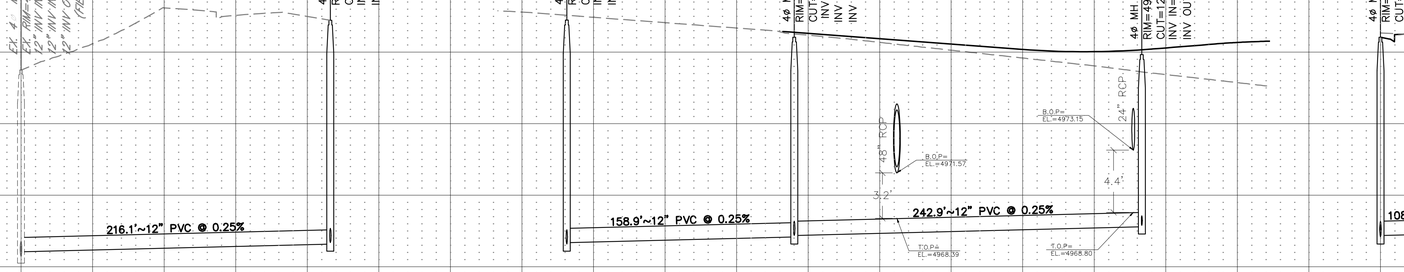
1. ALL SANITARY SEWER PIPE SHALL BE SDR-35.
2. SANITARY SEWER SERVICES SHALL EXTEND INTO EACH LOT 1' BEYOND THE UTILITY EASEMENT.
3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ANY MANHOLES OVER 17' DEEP WILL REQUIRE AN INTERMEDIATE LANDING, PER DETAIL SS5.

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)



COLLEGE AVE. - SOUTH OUTFALL

COLLEGE AVE.

COLLEGE AVE. - TRACT A

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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
COLLEGE AVE.

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

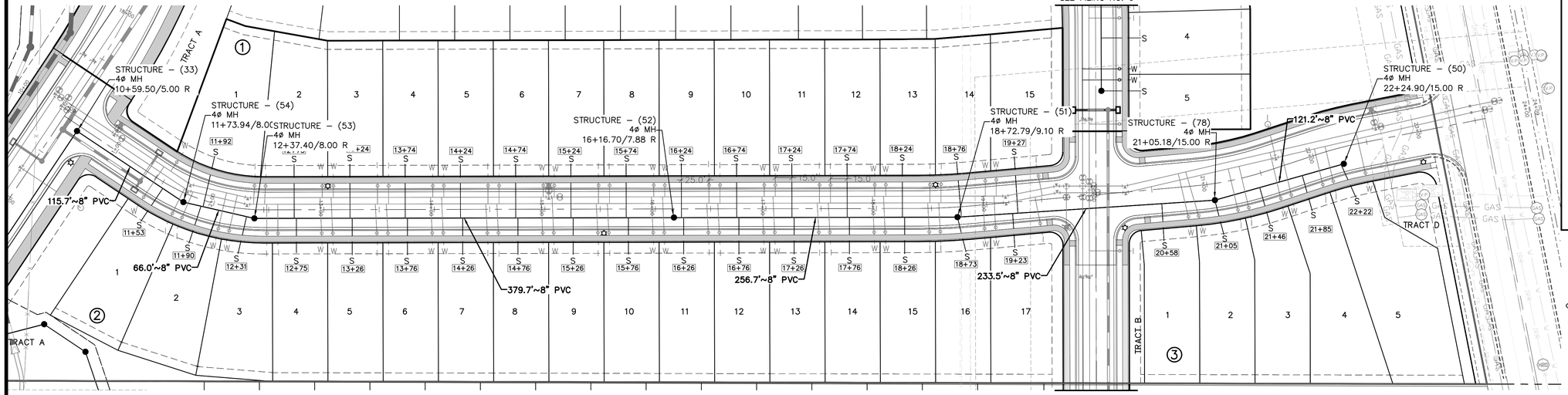
DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 34

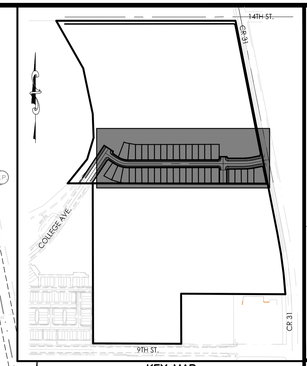
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KEY MAP
N.T.S.

(IN FEET)
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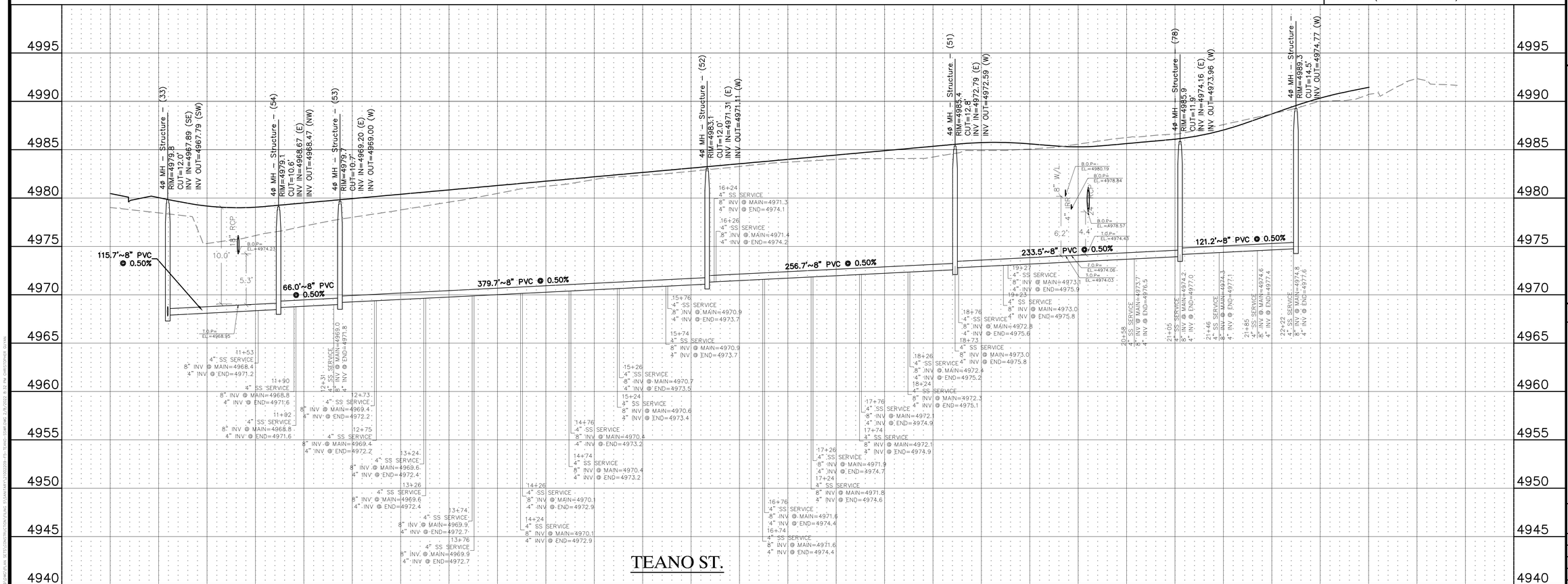
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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811
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COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
TEANO ST.

DATE 2/8/2022

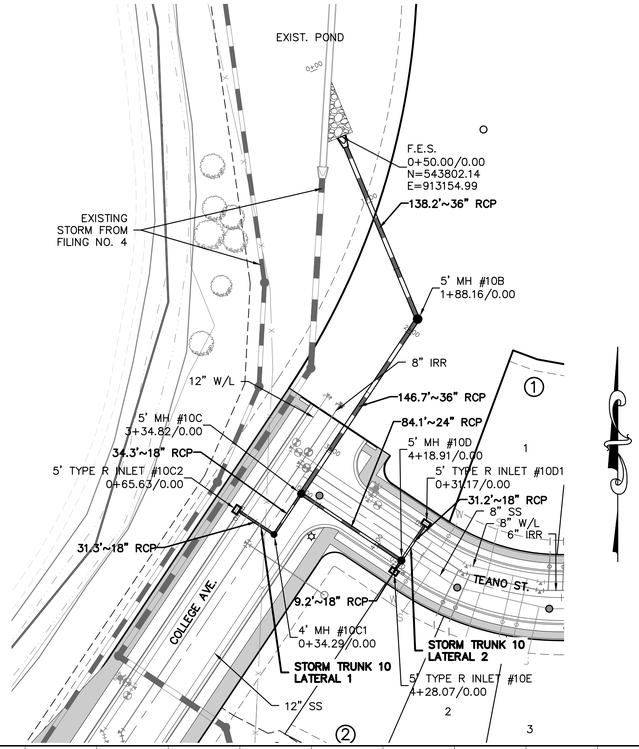
REVISIONS

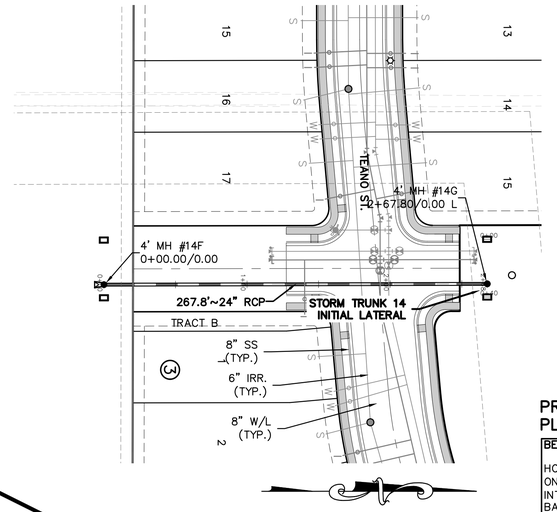
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

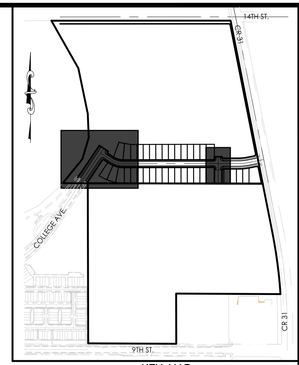
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SHEET NO. 35

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KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 10 & 14

DATE 2/9/2022

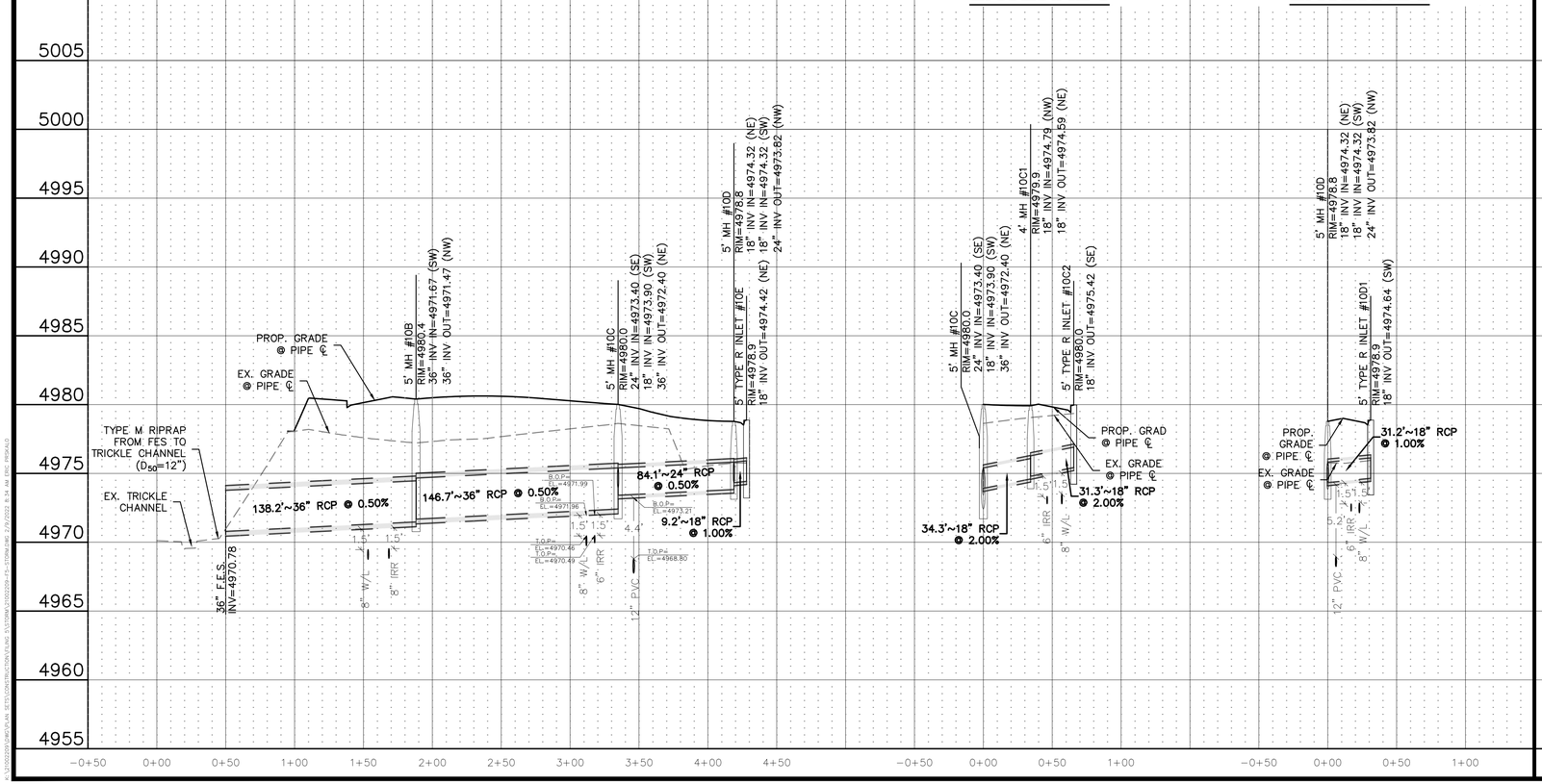
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SHEET NO. 36

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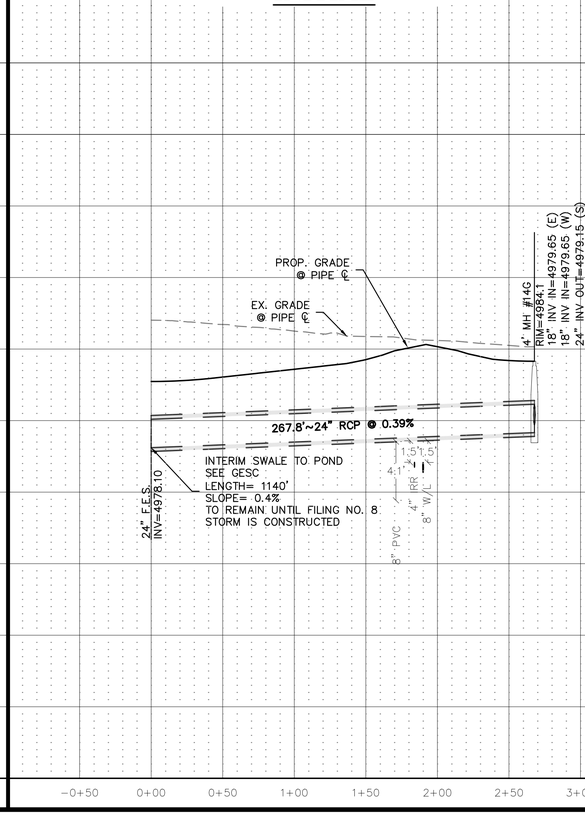
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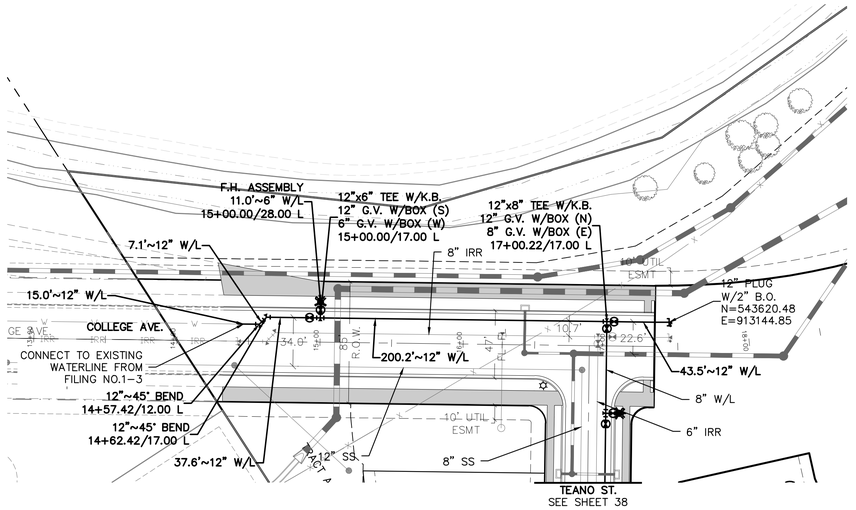


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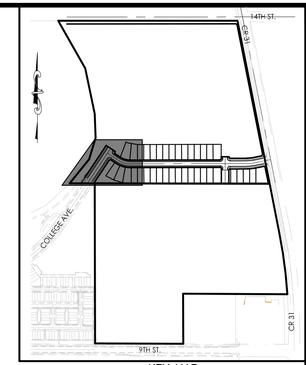
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STORM TRUNK 14 INITIAL

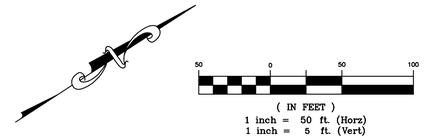




COLLEGE AVE.



KEY MAP
N.T.S.



NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
COLLEGE AVE.

DATE 2/8/2022

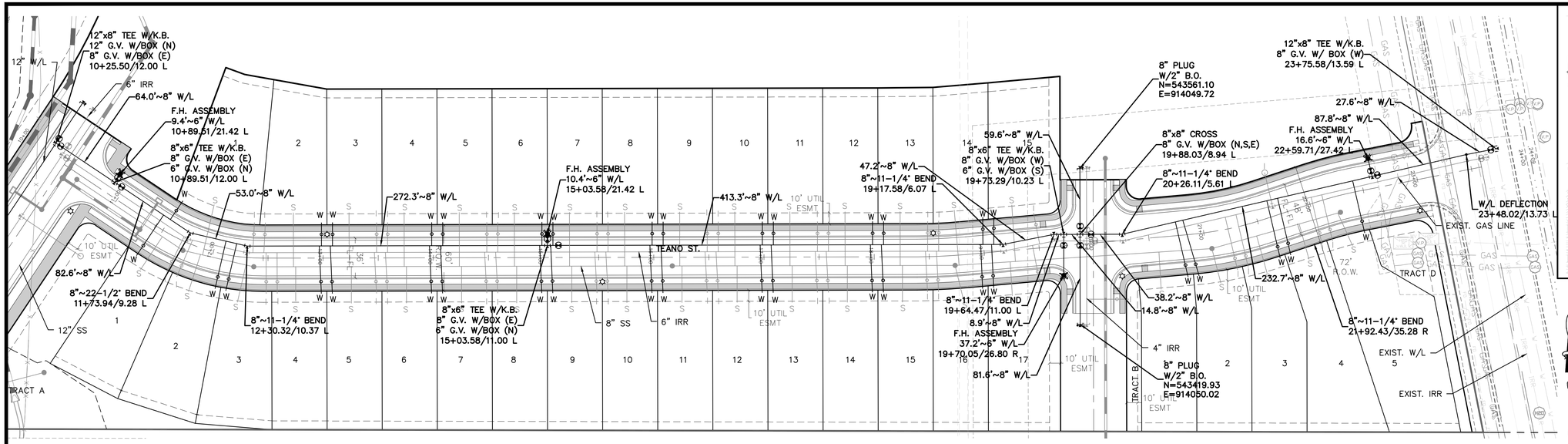
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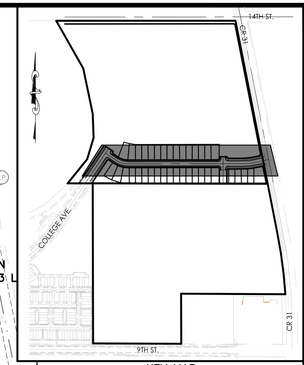
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 37

CAD FILE: 21002209-FS-WATER P&P-01.DWG

J:\2021\21002209\CAD\CONSTRUCTION\FS WATER\21002209-FS WATER P&P-01.DWG 2/8/2022 8:14:34 AM GMARTINEZ





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

TEANO ST.

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
TEANO ST.

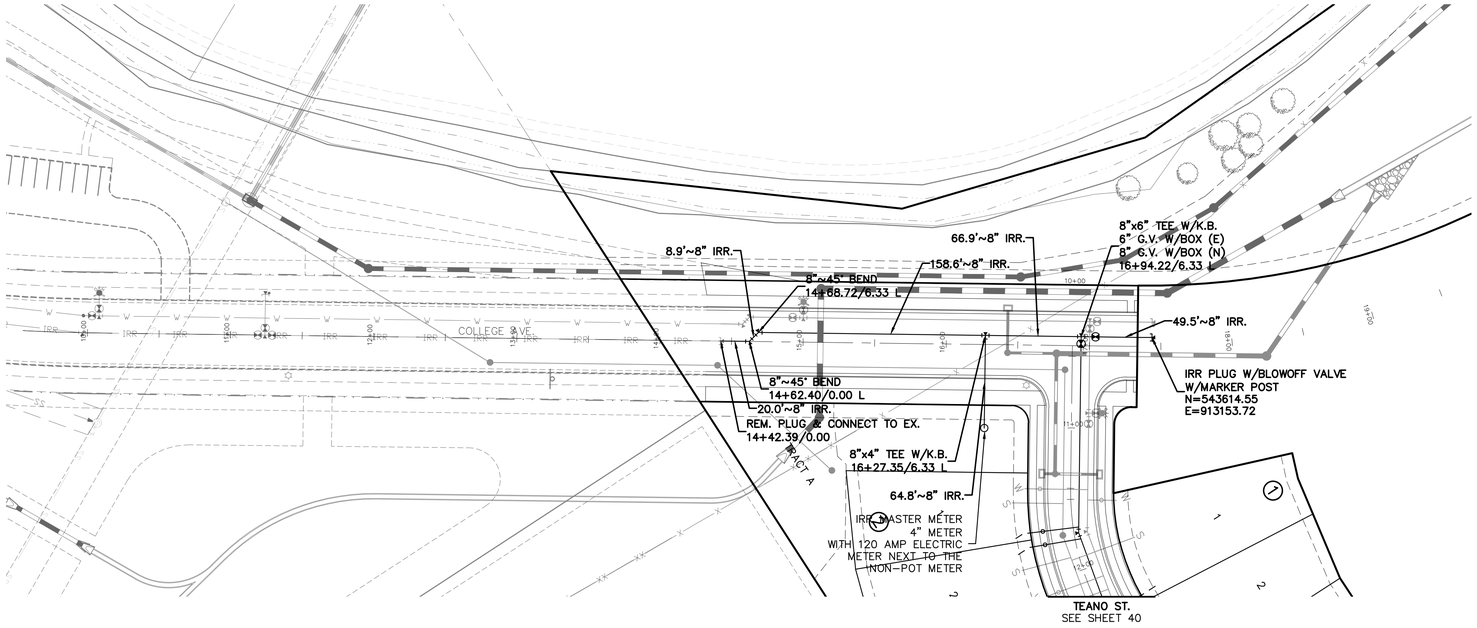
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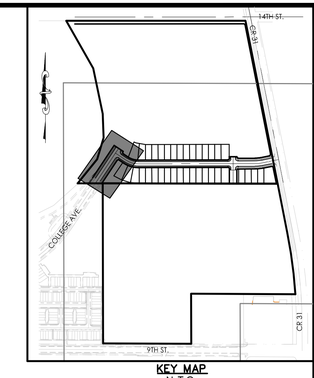
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NOT FOR CONSTRUCTION

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JOB 21002209
SHEET NO. 38

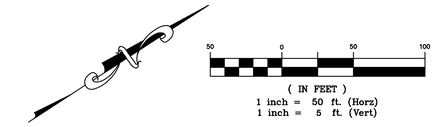
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COLLEGE AVE.



KEY MAP
N.T.S.



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PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
COLLEGE AVE.

DATE 2/8/2022

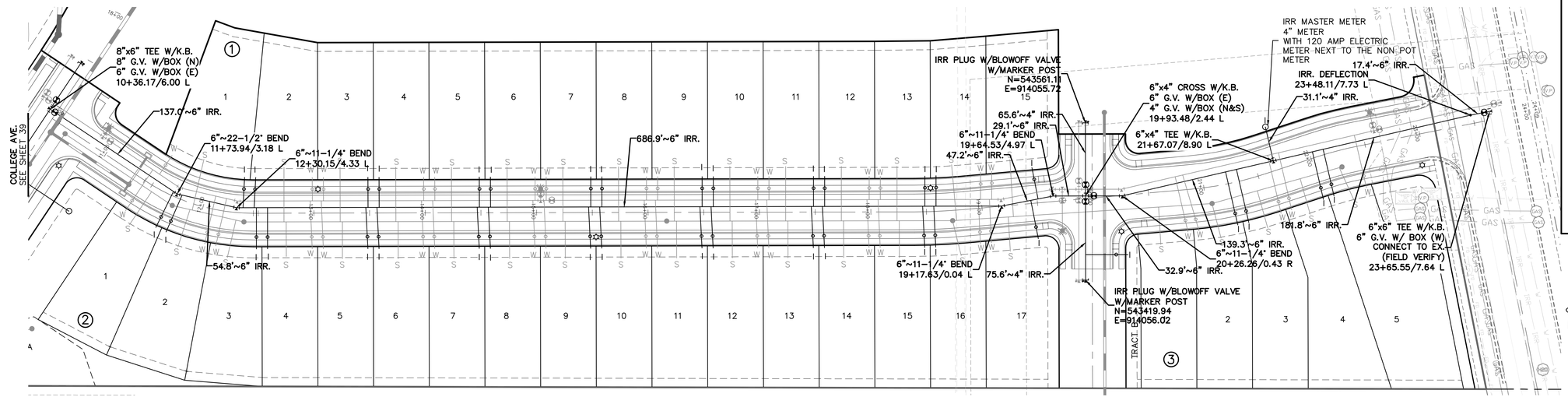
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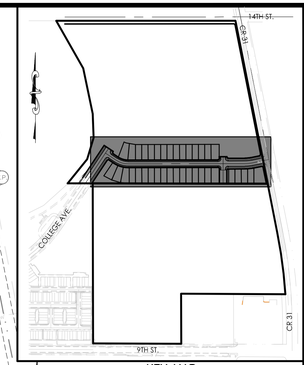
PLANS UNDER REVIEW
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SHEET NO. 39

CAD FILE: 21002209-F5-COLLEGE AVE-IRR.DWG

I:\2021\21002209\CAD\CONSTRUCTION PLANS\IRRIGATION PLANS\21002209-F5-COLLEGE AVE-IRR.DWG 2/8/2022 8:31 AM CHRISTOPHER GUIA





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50 0 50 100
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1. ALL IRRIGATION MAINS LINES SHALL BE PVC C900 PURPLE PIPE.

2. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

3. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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NEWPORT BEACH, CA 92660
303-905-3496

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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
TEANO ST.

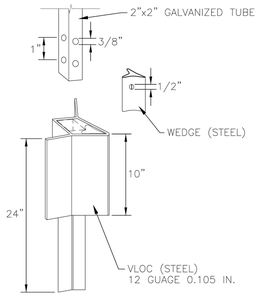
DATE 2/8/2022

REVISIONS

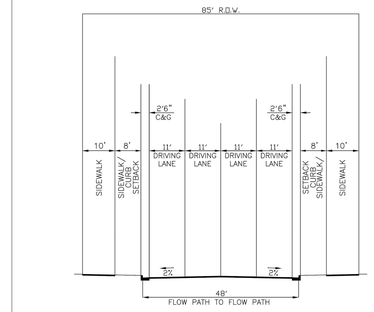
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 40

CAD FILE: 21002209-FS-TEANO-IRR.DWG



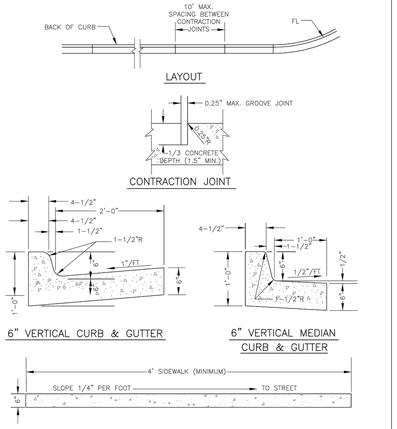
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14



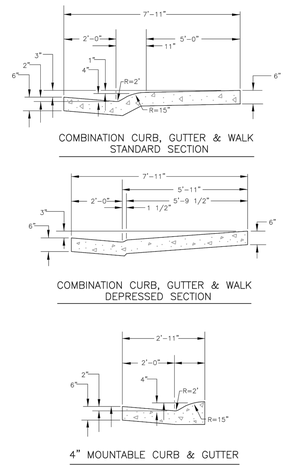
- PROVIDE WIDENING AT INTERSECTIONS FOR LEFT TURN LANES AND ACCEL/DECEL LANES RIGHT-OF-WAY WIDTH TO BE INCREASED TO 105' IN THESE AREAS.
- NO PARKING ALLOWED
- USED IN AREAS WHERE THERE IS LIMITED ACCESS AND PROJECTED TRAFFIC VOLUMES ARE GREATER THAN 10,000 VEHICLES PER DAY.

COLLECTOR PHASE III

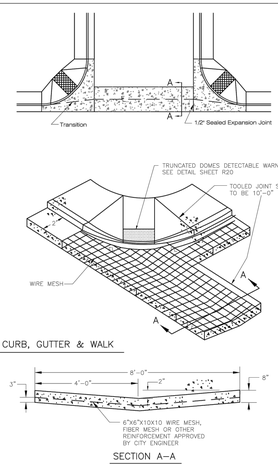
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COLLECTOR - PHASE 3 TYPICAL SECTION	R2-3
		DATE: 11/21/19



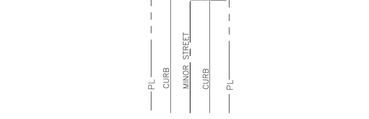
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14

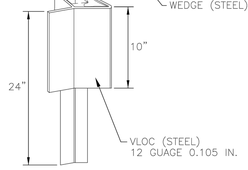


CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SIDEWALK RAMP WITH CROSS PAN	R11
		DATE: 3/15/17



MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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CONSTRUCTION PLANS
DETAILS
STREET DETAILS

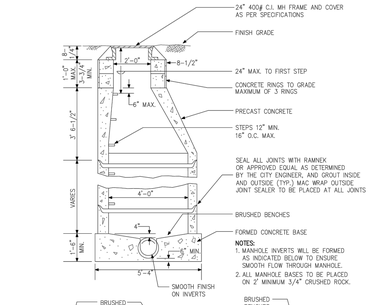
DATE 2/8/2022

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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

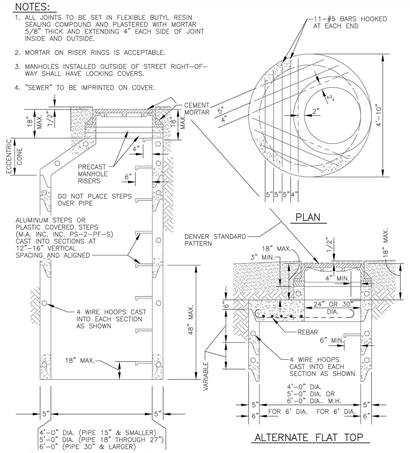
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P.M. DJR
JOB 21002209
SHEET NO. 41

CAD FILE: 21002209-FS-STREET DETAILS.DWG
LAST DESCRIPTION DESIGNED/DRAWN: DATE/DESIGNED: FS-STREET DETAILS.DWG 2/7/2022 8:36 AM JOSEPH.ROHN

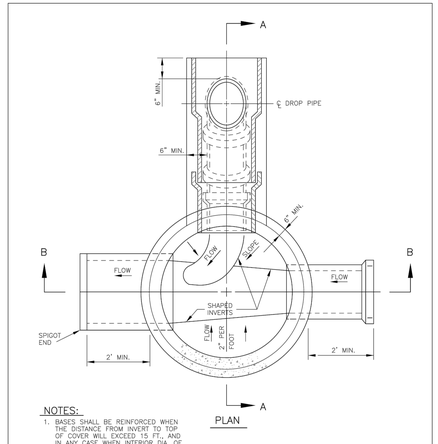


DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14

NOTES:
1. ALL JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND PLASTERED WITH MORTAR 5/8" THICK AND EXTENDING 4" EACH SIDE OF JOINT INSIDE AND OUTSIDE.
2. MORTAR ON RISER RINGS IS ACCEPTABLE.
3. MANHOLES INSTALLED OUTSIDE OF STREET RIGHT-OF-WAY SHALL HAVE LOCKING COVERS.
4. "SEWER" TO BE IMPRINTED ON COVER.

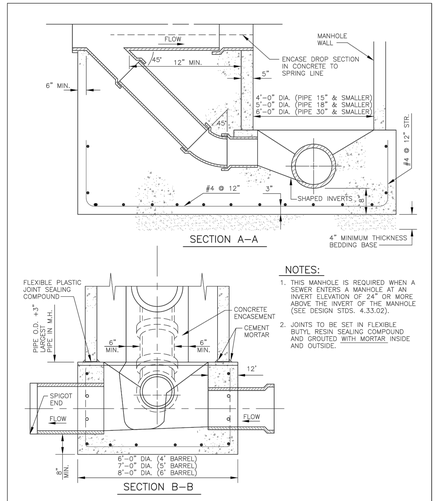


DESIGN STANDARDS	STANDARD DRAWING
MANHOLE BARRELS AND ALTERNATE TOPS	SS2
	DATE: 8/15/14



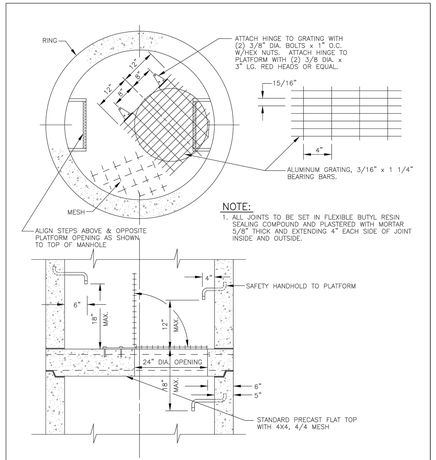
NOTES:
1. BASES SHALL BE REINFORCED WHEN THE DISTANCE FROM INVERT TO TOP OF COVER WILL EXCEED 15 FT., AND IN ANY CASE WHEN INTERIOR DIA. OF MANHOLE IS 5' AND LARGER.
2. SQUARE BASES ARE ACCEPTABLE.

DESIGN STANDARDS	STANDARD DRAWING
MONOLITHIC BASES FOR DROP MANHOLE	SS3
	DATE: 8/15/14



NOTES:
1. THIS MANHOLE IS REQUIRED WHEN A SEWER ENTERS A MANHOLE AT AN INVERT ELEVATION OF 24" OR MORE ABOVE THE INVERT OF THE MANHOLE (SEE DESIGN STDS. 4.33.02).
2. JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND GROUTED WITH MORTAR INSIDE AND OUTSIDE.

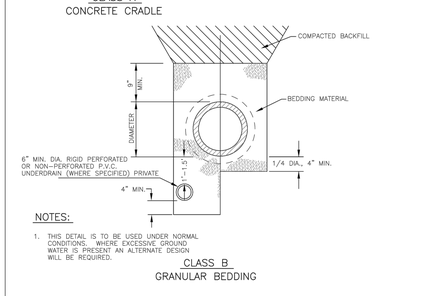
DESIGN STANDARDS	STANDARD DRAWING
DROP MANHOLE DETAIL	SS4
	DATE: 8/15/14



NOTE:
1. ALL JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND PLASTERED WITH MORTAR 5/8" THICK AND EXTENDING 4" EACH SIDE OF JOINT INSIDE AND OUTSIDE.

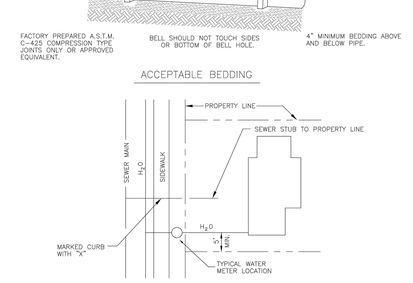
TO BE USED WHEN THE DISTANCE FROM INVERT TO TOP OF COVER EXCEEDS 17 FT.

DESIGN STANDARDS	STANDARD DRAWING
INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14

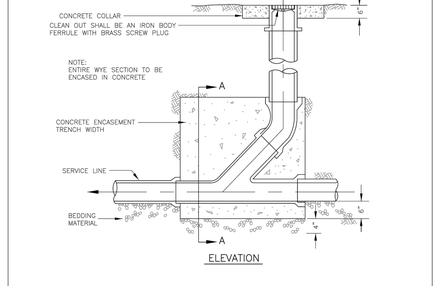


NOTES:
1. THIS DETAIL IS TO BE USED UNDER NORMAL CONDITIONS. WHERE EXCESSIVE GROUND WATER IS PRESENT AN ALTERNATE DESIGN WILL BE REQUIRED.

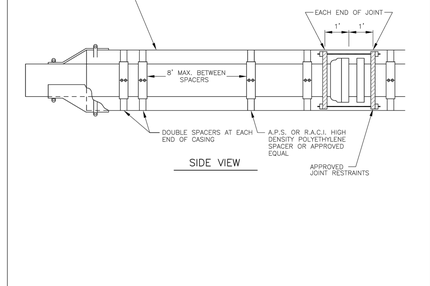
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14



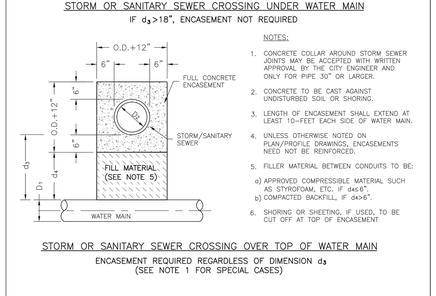
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

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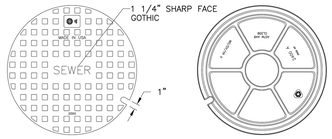
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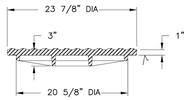
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P.M. DJR
JOB 21002209
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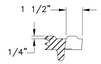
2400A Cover



COVER BACK



SECTION



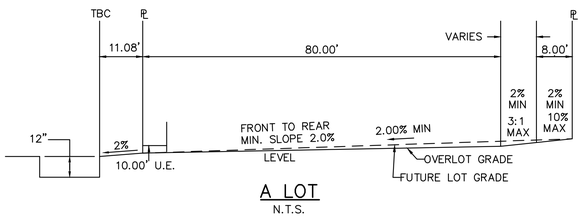
PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Gray Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

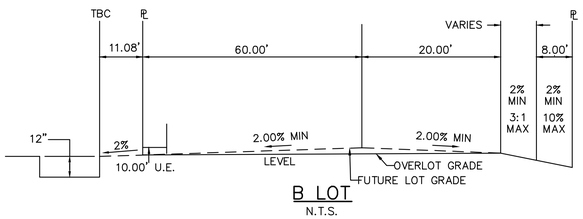
Certification
- ASTM A48
-Country of Origin USA

CITY OF Fort Lupton COLORADO COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SANITARY SEWER MANHOLE LID	SS12
		DATE: 5/04/2017

GRADING PLAN DETAILS



A LOT
N.T.S.



B LOT
N.T.S.

NOTES:
1. TYPICAL LOT SECTIONS ARE PRELIMINARY AND SUBJECT TO CHANGE WITH PLOT PLAN PREPARATION
2. TYPICAL LOT SECTIONS SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
3. SEE PLOT PLANS FOR FINAL LOT GRADING.
4. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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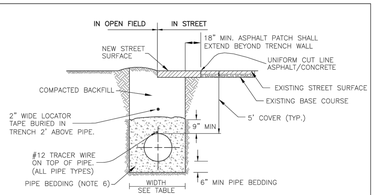
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SHEET NO. 43

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TYPICAL TRENCH SECTION

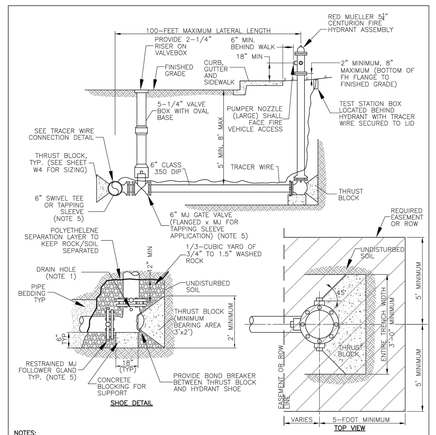
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM. HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

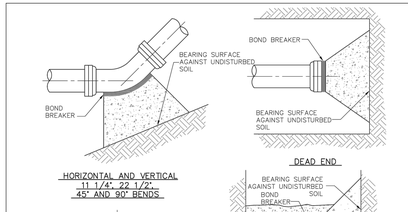
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



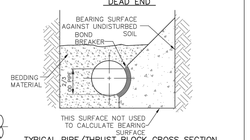
NOTES:

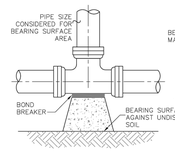
1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS





TEE OR TAPPING SLEEVE

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

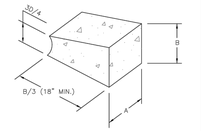
MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

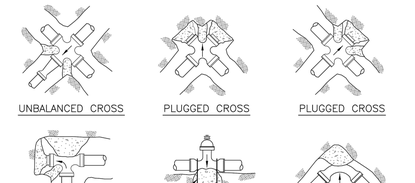
GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).



NOT TO SCALE

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" AND 1.5" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE 45° AND 90° BENDS, TEE, AND REDUCER.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER STRAINER SHALL BE INSTALLED ON THE INLET SIDE OF THE METER. ALL STRAINERS SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. NOTE: VAULT ROOFING, PLATES AND ALL PLATES MUST BE GALVANIZED STEEL.
14. NOTE: VAULT RODDING, NUTS AND WALL PLATES MUST BE STAINLESS STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

Know what's below. Call before you dig.
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.
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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
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COTTONWOOD DEVELOPMENT PARTNERS, LLC

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CONSTRUCTION PLANS
DETAILS
WATER DETAILS

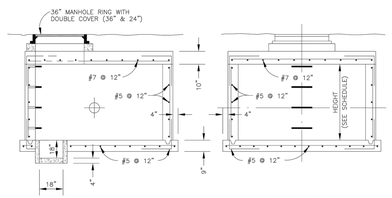
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 44

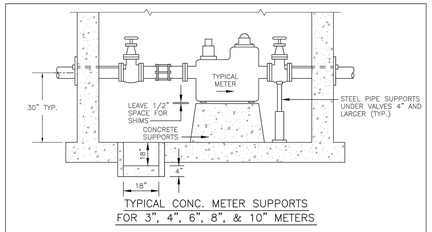
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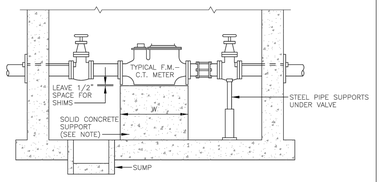
METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL METER VAULT	W12
	DATE: 8/15/14



TYPICAL CONC. METER SUPPORTS FOR 3", 4", 6", 8", & 10" METERS

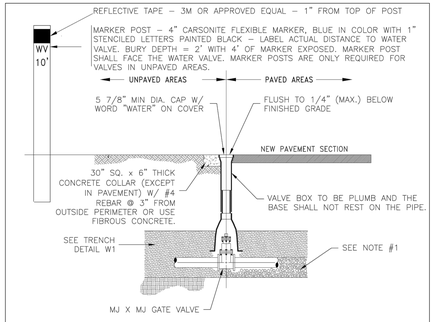


TYPICAL CONC. METER SUPPORT FOR F.M.–M.C.T. OR TURBINE

NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

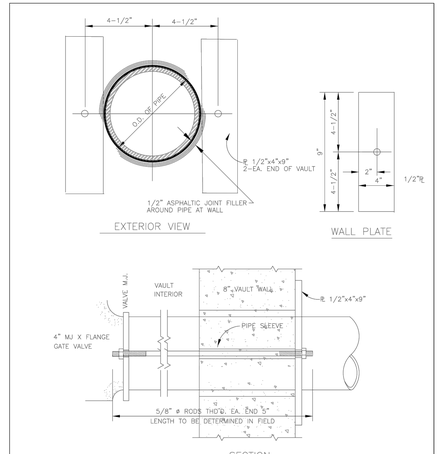
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CONCRETE METER SUPPORTS	W13
	DATE: 8/15/14

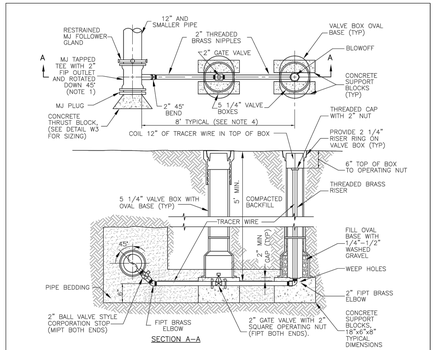


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14

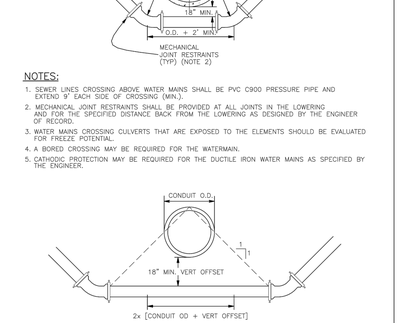


DESIGN STANDARDS	STANDARD DRAWING
WALL CLAMP	W15
	DATE: 8/15/14



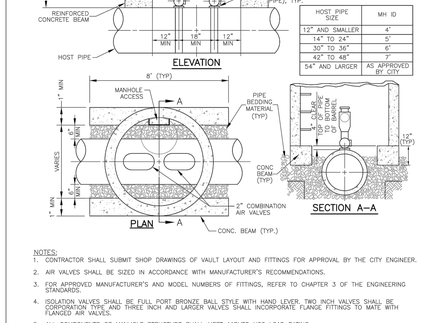
NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE FLANGE. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPING.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING THRUST BLOCKS.

DESIGN STANDARDS	STANDARD DRAWING
STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
	DATE: 8/15/14



NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.

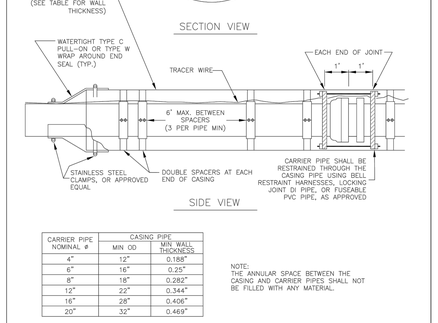
DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14



HOST PIPE SIZE	MH ID
12" AND SMALLER	4'
14" TO 24"	5'
30" TO 36"	6'
42" TO 48"	7'
54" AND LARGER	AS APPROVED BY CITY

NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

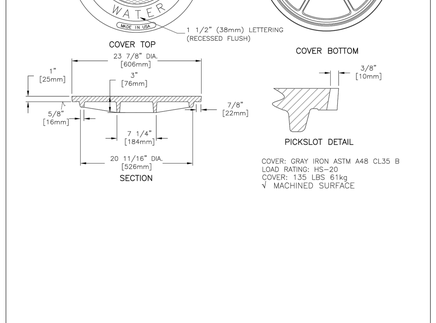
DESIGN STANDARDS	STANDARD DRAWING
COMBINATION AIR VALVE INSTALLATION	W19
	DATE: 8/15/14



CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

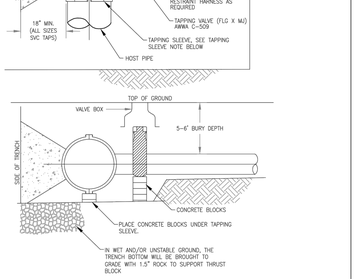
NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
BORING DETAIL	W22
	DATE: 8/15/14



COVER: GRAY IRON ASTM A48 CL35 B
LOAD RATING: HS–20
COVER: 135 LBS. 61kg
√ MACHINED SURFACE

DESIGN STANDARDS	STANDARD DRAWING
WATER VAULT LID	W24
	DATE: 8/15/14



NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

DESIGN STANDARDS	STANDARD DRAWING
WET TAP CONNECTION - 4" AND LARGER TAP	W25
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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303.462.1100

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SUITE 250
NEWPORT BEACH, CA 92660
303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

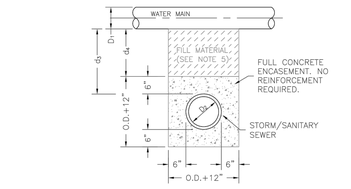
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

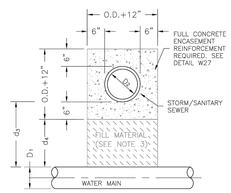
DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 45

CAD FILE: 21002209–F5–WATER DETAILS.DWG



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

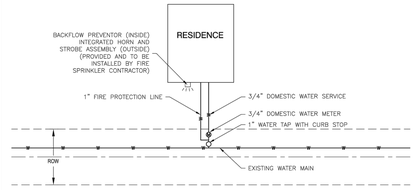
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d4≤6". COMPACTED BACKFILL, IF d4>6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ENCASEMENT FOR CONDUIT CROSSING	W26
		DATE: 8/15/14

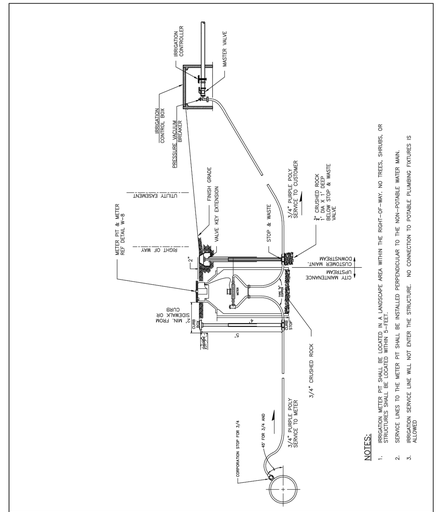
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SINGLE WATER TAP FOR FIRE LINE	W29
		DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-POTABLE WATER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	3/4" & 1" IRRIGATION METER SETS	W30
		DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
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CLIENT
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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

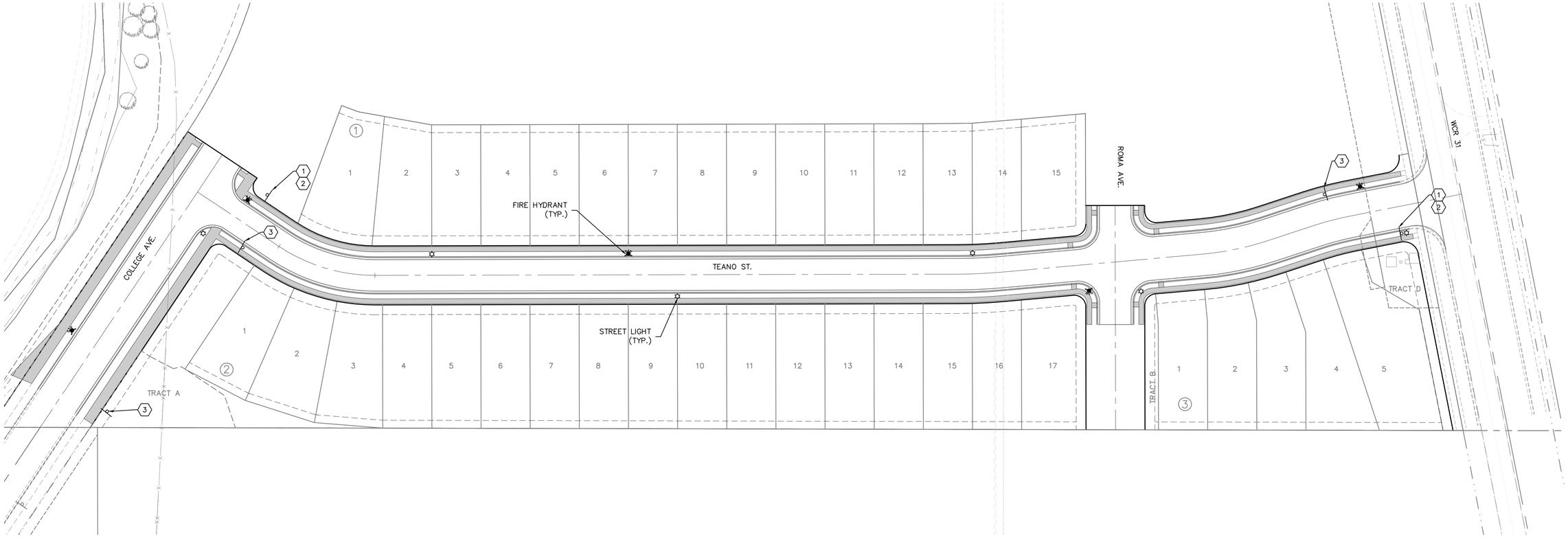
DATE 2/8/2022

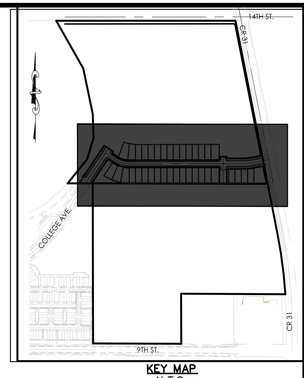
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 46

CAD FILE: 21002209-F5-WATER DETAILS.DWG





KEY MAP
N.T.S.

Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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303-905-3496
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COTTONWOOD GREENS FILING NO. 5
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

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P.M. DJR

JOB 21002209

SHEET NO. 47

CAD FILE: 21002209-FS-SIGNAGE AND STRIPING.DWG

SPEED LIMIT 25
R2-1
24"x30"
NTS
3

Fort Lupton COPPER PL
D3
VARIABLE SIZE
NTS
CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS

PORCHIANO AVE.
ALTO ST.
STREET SIGN (TYP.)
NTS
2

STOP
R1-1
30"x30"
NTS
1

NOTES:

1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.

3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
(A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
(B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.

4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.

5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

COTTONWOOD GREENS FILING NO. 6

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 6 CONSTRUCTION PLANS

LEGAL DESCRIPTION:

COTTONWOOD GREENS PUD FILING NO. 6

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO-FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2-1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 68°38'55" EAST 1323.87 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE DEPARTING SAID EASTERLY LINE NORTH 89°52'51" EAST 85.00 FEET;

THENCE SOUTH 00°07'09" EAST 11.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 3.00 FEET;

THENCE NORTH 00°07'09" WEST 125.31 FEET;

THENCE NORTH 89°52'51" EAST 315.21 FEET;

THENCE SOUTH 00°07'09" EAST 113.31 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 72.18 FEET;

THENCE NORTH 89°49'35" EAST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 264.59 FEET;

THENCE NORTH 89°52'51" EAST 85.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 170.00 FEET;

THENCE 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";

THENCE SOUTH 50°22'42" EAST 60.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;

THENCE 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";

THENCE SOUTH 64°00'29" EAST 46.81 FEET;

THENCE SOUTH 31°39'11" EAST 73.97 FEET;

THENCE SOUTH 20°06'58" EAST 72.65 FEET;

THENCE SOUTH 07°57'50" EAST 73.78 FEET;

THENCE SOUTH 00°07'09" EAST 180.09 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 16.53 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE ALONG THE BOUNDARY OF SAID COTTONWOOD GREENS PUD FILING NO. 5 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°52'51" WEST 60.00 FEET;
2. NORTH 00°07'09" WEST 98.59 FEET;
3. SOUTH 89°52'51" WEST 665.22 FEET;
4. NORTH 79°55'29" WEST 75.55 FEET;
5. NORTH 69°39'15" WEST 18.25 FEET;
6. SOUTH 20°20'45" WEST 127.99 FEET;
7. NORTH 56°15'29" WEST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
8. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
9. NORTH 33°44'31" EAST 3.48 FEET;
10. NORTH 56°15'29" WEST 85.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 532.50 FEET AND A CENTER WHICH BEARS NORTH 56°15'29" WEST;
11. 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40";
12. NORTH 00°17'09" WEST 240.47 FEET TO THE POINT OF BEGINNING;

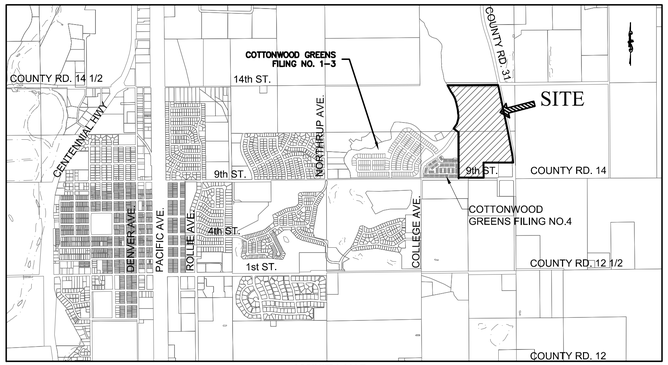
SAID TRACT OF LAND CONTAINS 443,518 SQUARE FEET, OR 10.18 ACRES, MORE OR LESS.

RESIDENTIAL DESIGN STANDARDS VARIANCES

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.



VICINITY MAP
SCALE: 1"=2,000'

Sheet List Table	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES, LEGEND & TYPICAL SECTIONS
3	PHASING PLAN
4	OVERALL UTILITY
GESC PLANS	
5	GESC INTERIM
6	GESC FINAL
7	GESC DETAILS
8	GESC DETAILS
DETAIL GRADING	
9	DETAIL GRADING PLAN
STREET PLAN & PROFILE	
10	COLLEGE AVE. & MATERA AVE.
11	ROMA AVE.
12	BOSA ST.
13	LENOLA ST.
SANITARY SEWER PLAN & PROFILE	
14	COLLEGE AVE.
15	BOSA ST.
16	ROMA AVE.
17	LENOLA ST. & MATERA AVE.
STORM SEWER PLAN & PROFILE	
18	STORM 11 & 14
19	STORM 12
WATER PLAN	
20	COLLEGE AVE. & MATERA AVE.
21	ROMA AVE.
22	BOSA ST.
23	LENOLA ST.
IRRIGATION PLAN	
24	COLLEGE AVE. & MATERA AVE.
25	ROMA AVE.
26	BOSA ST.
27	LENOLA ST.
DETAILS	
28	STREET DETAILS
29	SANITARY DETAILS
30	SANITARY DETAILS
31	WATER DETAILS
32	WATER DETAILS
33	WATER DETAILS
SIGNAGE & STRIPING	
34	SIGNAGE & STRIPING

CITY ENGINEER'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

MAYOR'S CERTIFICATE:
THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ___ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

OWNER:
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACAURTHER BLVD., SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

CIVIL ENGINEER:
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

SURVEYOR:
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

CITY OF FORT LUPTON:
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

XCEL ENERGY(GAS):
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

UNITED POWER (ELEC):
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

CENTURYLINK (FIBER OPTIC):
5324 WADSWORTH BYP., SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ DATE
DANIEL J. RODRIGUEZ, P.E.
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

Know what's below. Call before you dig.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-F6-COVER SHEET.DWG

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WITH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.

3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.

4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.

6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.

7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.

9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.

10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.

11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.

12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.

13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.

15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.

18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

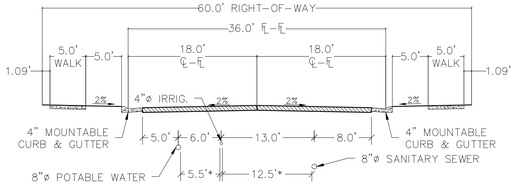
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

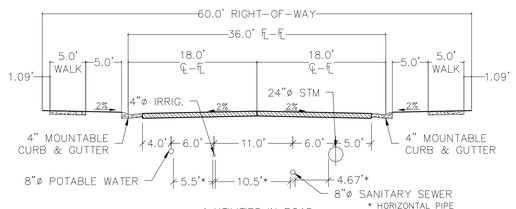
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



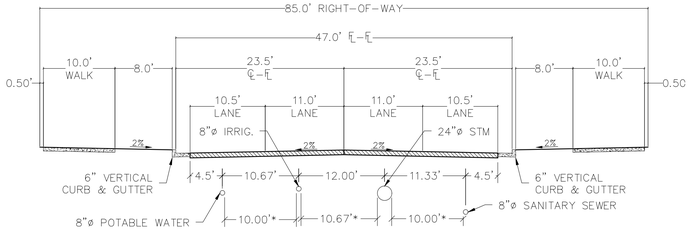
3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
COLLECTOR ROAD SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- EXISTING SANITARY
- PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- EXISTING WATER
- PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- EXISTING IRRIGATION LINE
- EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICAL
- EXISTING CABLE TV
- EXISTING FIBER OPTIC CABLE
- EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
COTTONWOOD DEVELOPMENT PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

DATE 2/8/2022

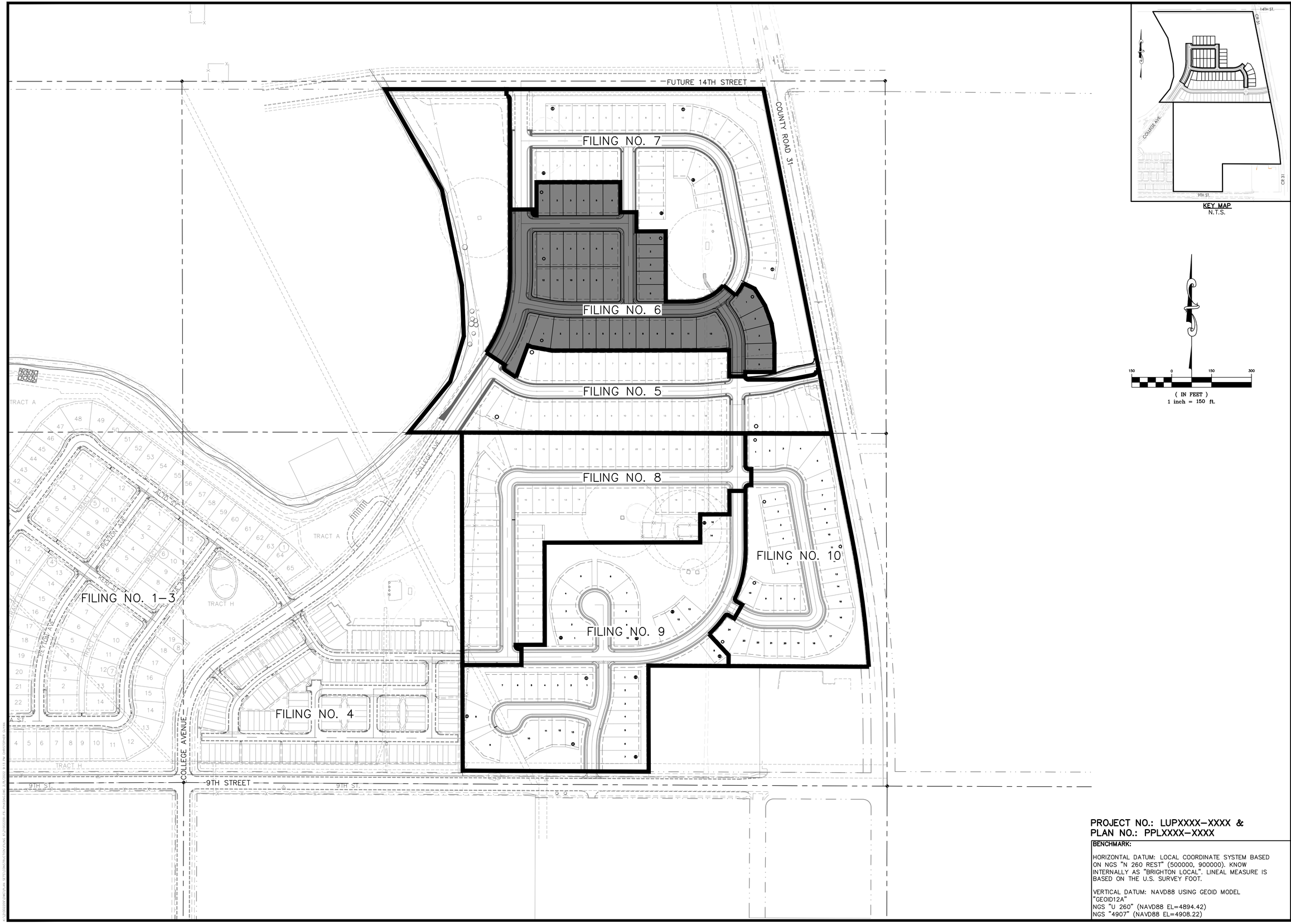
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209-F6-COVER SHEET.DWG

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KEY MAP
N.T.S.

(IN FEET)
1 inch = 150 ft.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

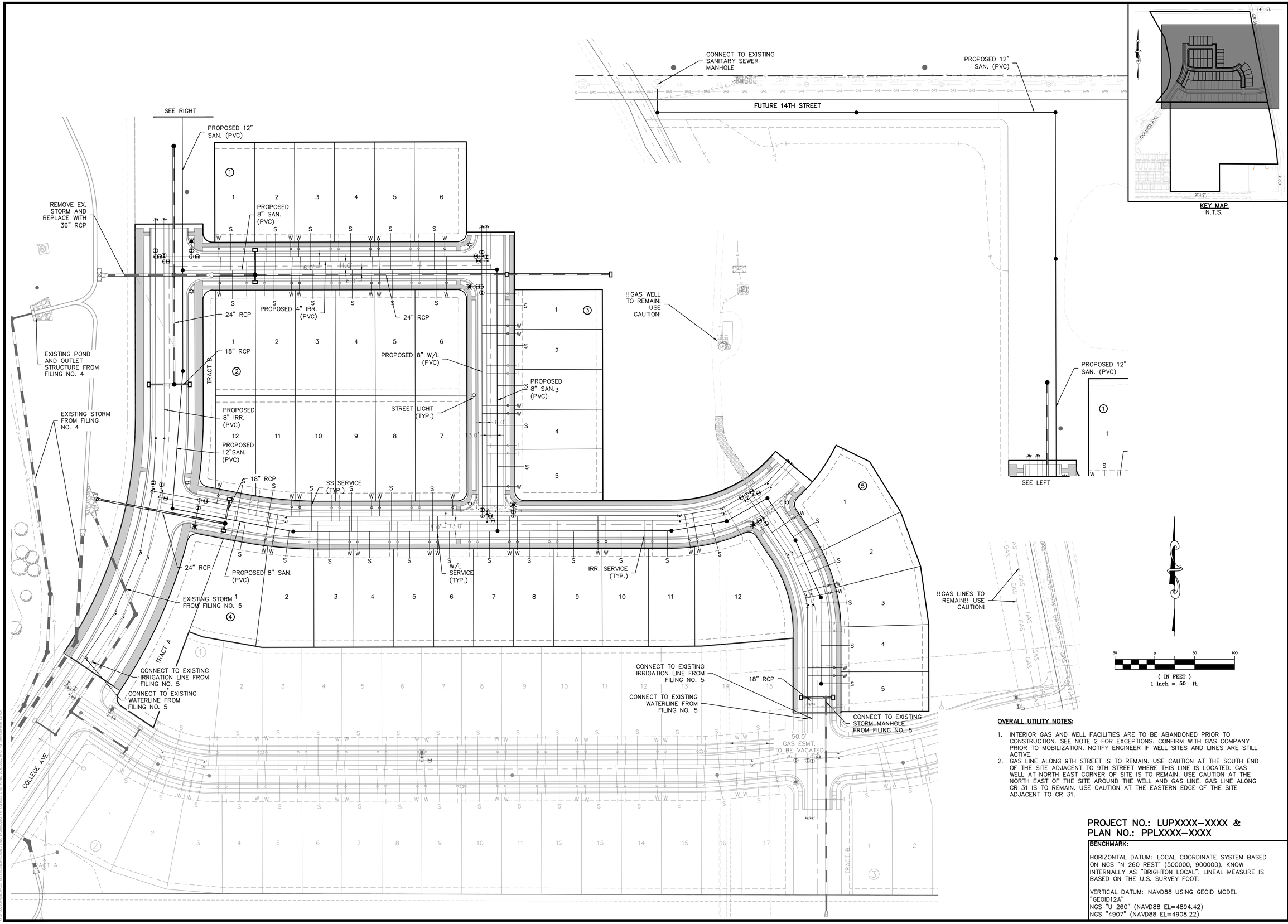
DATE: 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 3

CAD FILE: 21002209-F6-PHASING.DWG



KEY MAP
N.T.S.

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
OVERALL UTILITY

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 4

OVERALL UTILITY NOTES:

1. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 2 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
2. GAS LINE ALONG 9TH STREET IS TO REMAIN. USE CAUTION AT THE SOUTH END OF THE SITE ADJACENT TO 9TH STREET WHERE THIS LINE IS LOCATED. GAS WELL AT NORTH EAST CORNER OF SITE IS TO REMAIN. USE CAUTION AT THE NORTH EAST OF THE SITE AROUND THE WELL AND GAS LINE. GAS LINE ALONG CR 31 IS TO REMAIN. USE CAUTION AT THE EASTERN EDGE OF THE SITE ADJACENT TO CR 31.

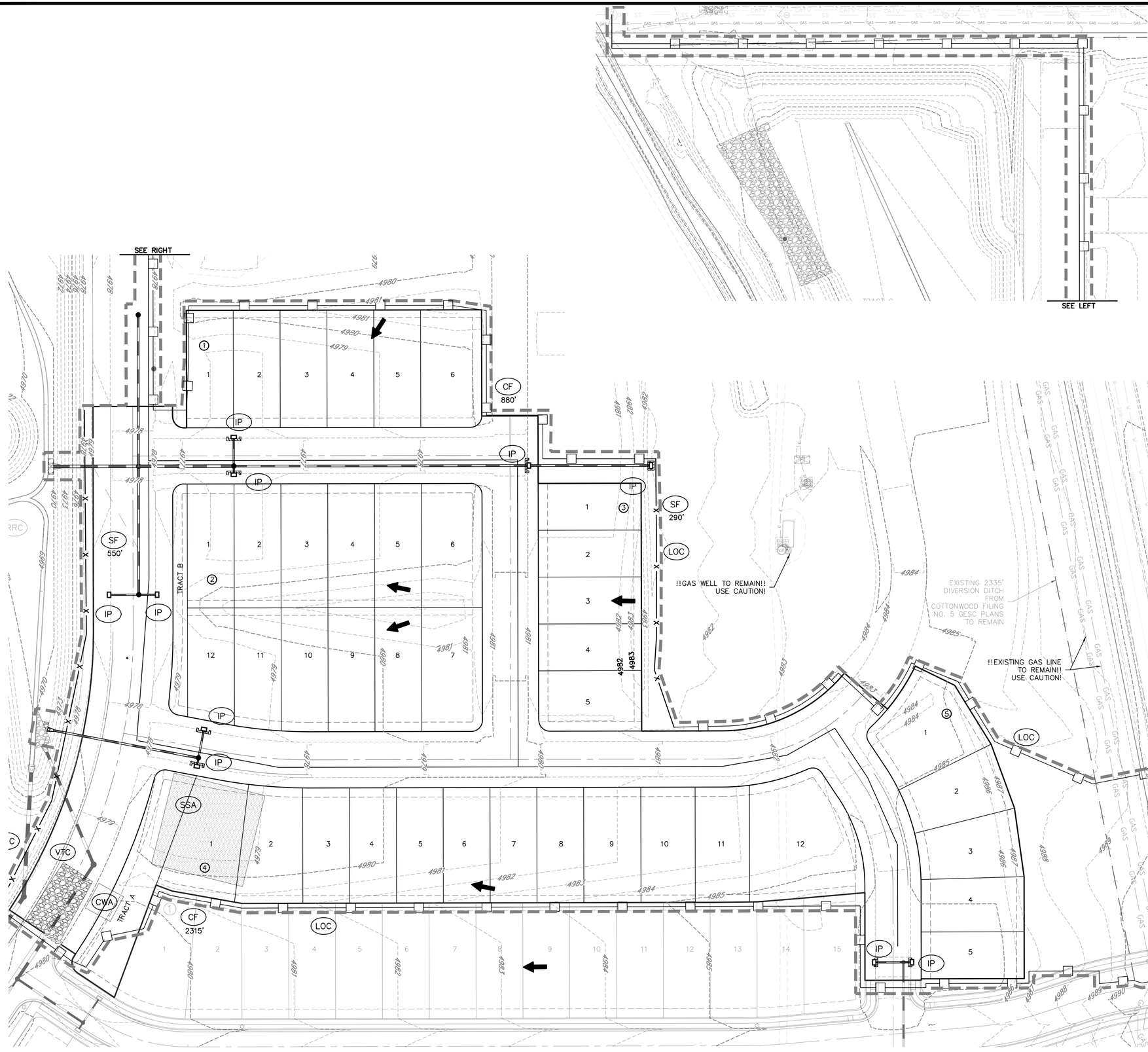
PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

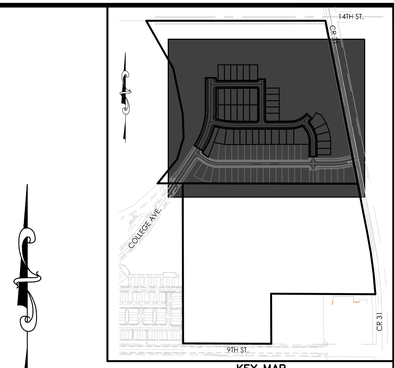
BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

DESCRIPTION:\\ATWELL\DENVER\PROJECTS\21002209\CAD\SHEETS\21002209-F6-OVERALL UTILITY.DWG
CAD FILE: 21002209-F6-OVERALL UTILITY.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

1. SEE FILING NO. 5 GESC FOR EXISTING PERIMETER CONTROLS AND OTHER GESC MEASURES THAT REMAIN ON THE SITE AT THE START OF CONSTRUCTION OF THIS FILING. THE EXISTING FILING NO. 5 GESC IS THE INITIAL PHASE.
2. SEE DETAILS FOR MORE INFO ON EACH BMP NAMES AND SYMBOLS.
3. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC DRAWING AND, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY.
4. SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION.
5. THIS AREA IS INTENDED TO HAVE MINIMAL DISTURBANCE. ALL DISTURBED AREAS BETWEEN THE DEVELOPMENT AREA AND THE LOC WILL BE SEEDED AND MULCHED. THE COVERAGE AREA WILL BE DEPENDENT ON THE CONTRACTORS DISTURBED AREA. FIELD VERIFY WITH OWNER AND GESC INSPECTOR.
6. ANY SLOPES GREATER THAN 4:1 ARE REQUIRED TO HAVE EROSION CONTROL BLANKETS
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GRADING AND EROSION CONTROL LEGEND

- SF — SILT FENCE
- IP — INLET PROTECTION
- RRC — CULVERT PROTECTION
- VTC — VEHICLE TRACKING CONTROL
- CWA — CONCRETE WASHOUT AREA
- SSA — STABILIZED STAGING AREA
- SM — SEEDING AND MULCHING
- LOC — LIMITS OF CONSTRUCTION
- CF — CONSTRUCTION FENCE
- DD — DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC INTERIM

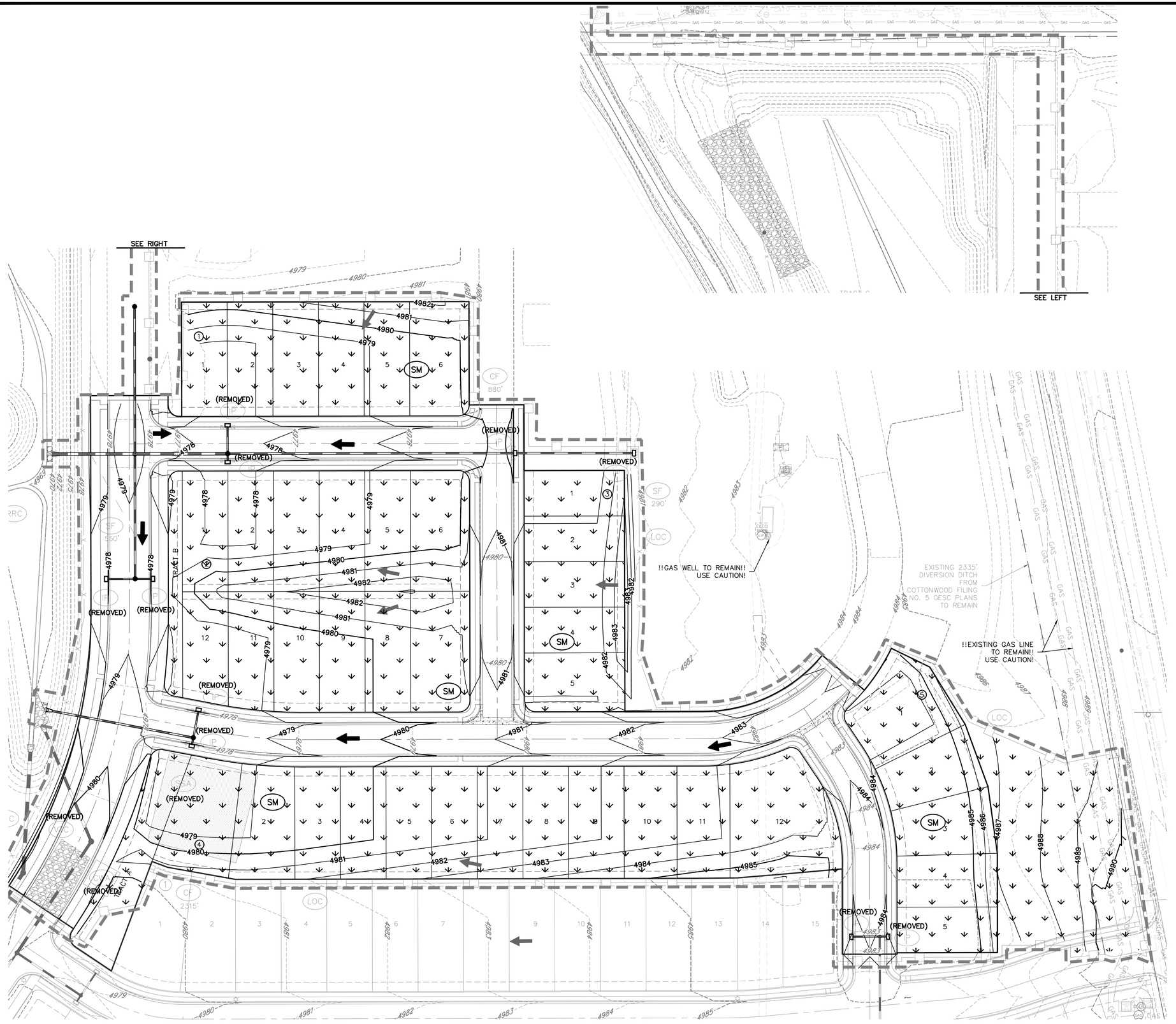
DATE 2/8/2022

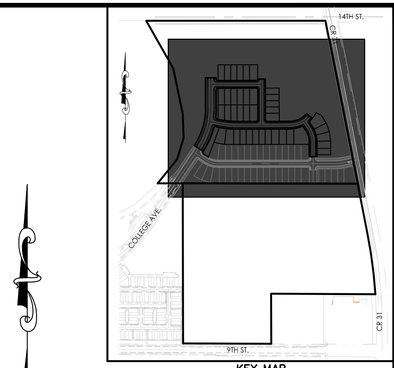
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 5

CAD FILE: 21002209-GESC INTERIM - F6.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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LAKEWOOD, CO 80228
303.462.1100

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NEWPORT BEACH, CA 92660
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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 6

CAD FILE: 21002209-GESC FINAL – PB.DWG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

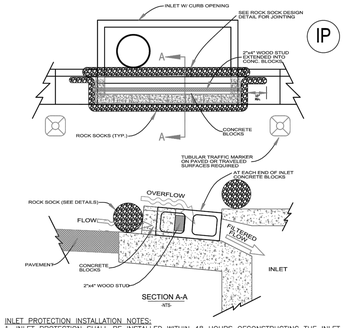
DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

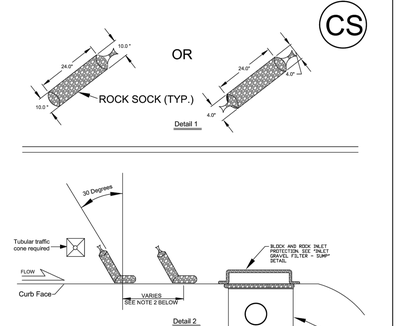
TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14



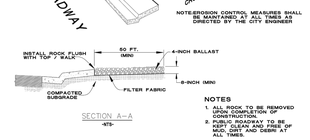
INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14



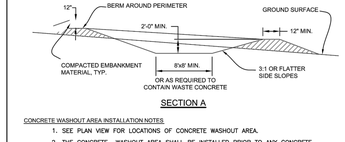
NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14



SECTION A

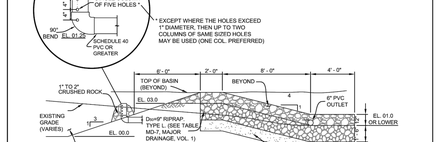
CONCRETE WASHOUT AREA INSTALLATION NOTES

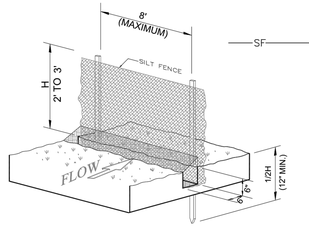
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TRCUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

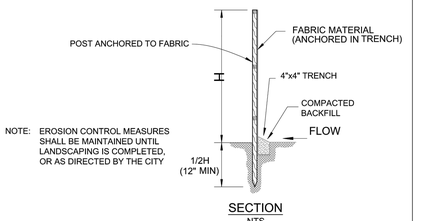
DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14


SB
INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF TEMPORARY SLOPE DRAIN (SEE TSD DETAILS)
RELATIVE ELEVATION, TYP. 4"TO 6" GALVANISHED ROCK HOSE (RH)
6" PVC
45° BEND
FLOW
5.0 x 5.0 x 2.0 D RIPRAP PAD Do = 9", TYPE L, (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 OR AS CALLED OUT ON THE PLANS)
W BOTTOM WIDTH
3:1
3:1
3:1



SILT FENCE INSTALLATION

-NTS-



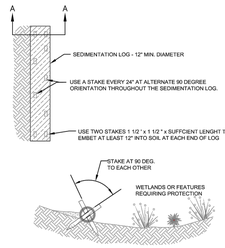
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SILT FENCE	EC 15
		DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

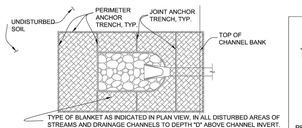
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

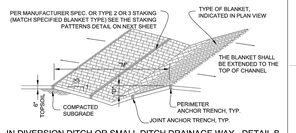
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SEDIMENT CONTROL LOGS	EC 16
		DATE: 8/15/14

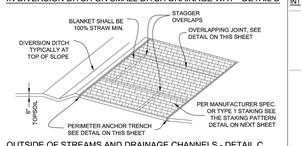
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AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

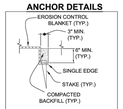


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B

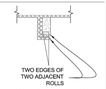


OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

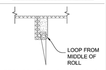
ANCHOR DETAILS



PERIMETER ANCHOR TRENCH



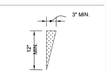
JOINT ANCHOR TRENCH



INTERMEDIATE ANCHOR TRENCH



OVERLAPPING JOINT

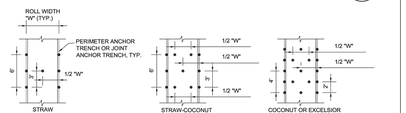


WOOD STAKE DETAIL

MINIMUM ACCEPTABLE USE 2x4 MATERIAL FOR STAKES

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET DETAILS	EC 17
		DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

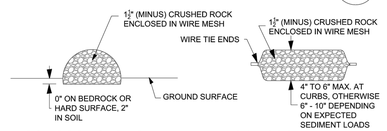
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

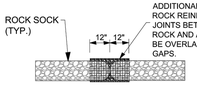
CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
		DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
11/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	ROCK SOCK DETAIL	EC 19
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303.462.1100

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NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

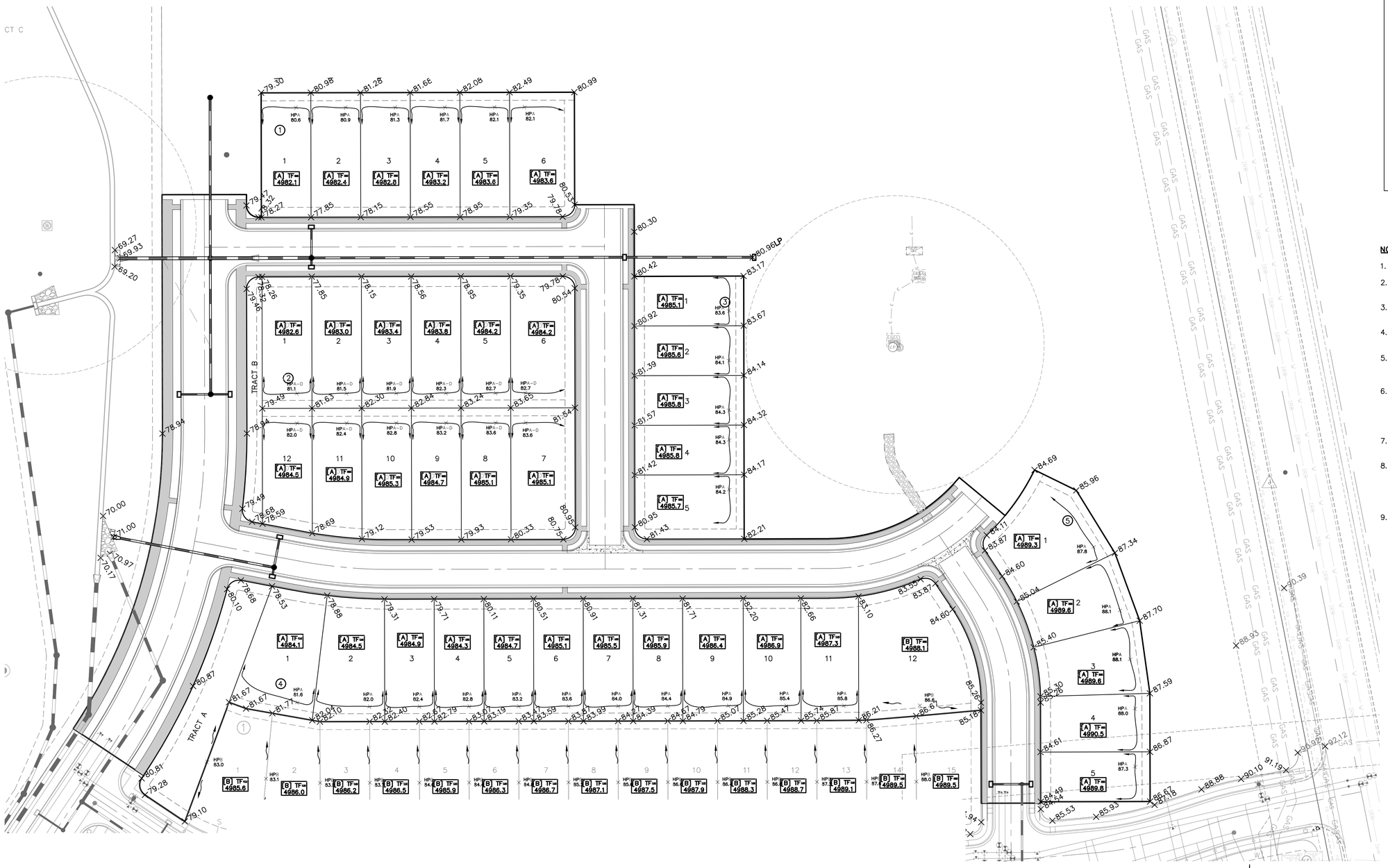
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JOB 21002209
SHEET NO. 8

CAD FILE: 21002209-GESC DETAILS.DWG

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NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

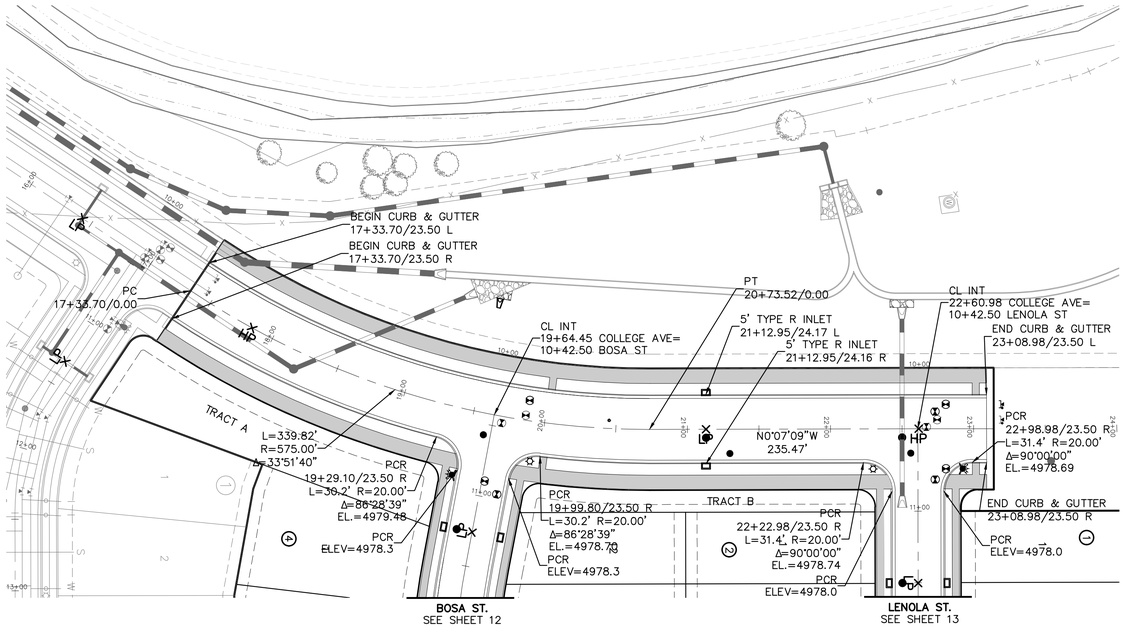
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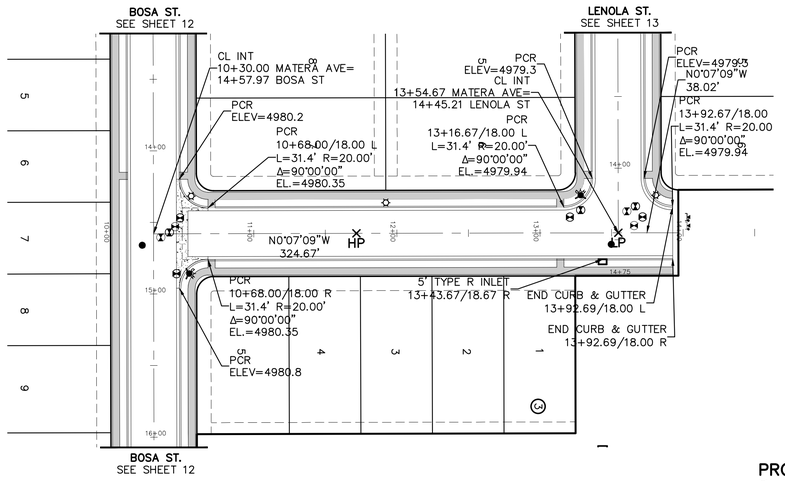
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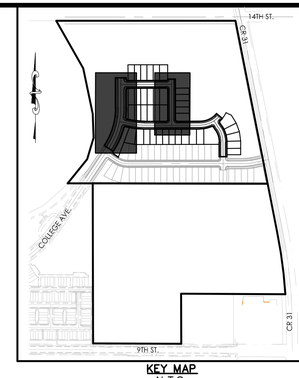
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COLLEGE AVE.



MATERA AVE.



KEY MAP
N.T.S.

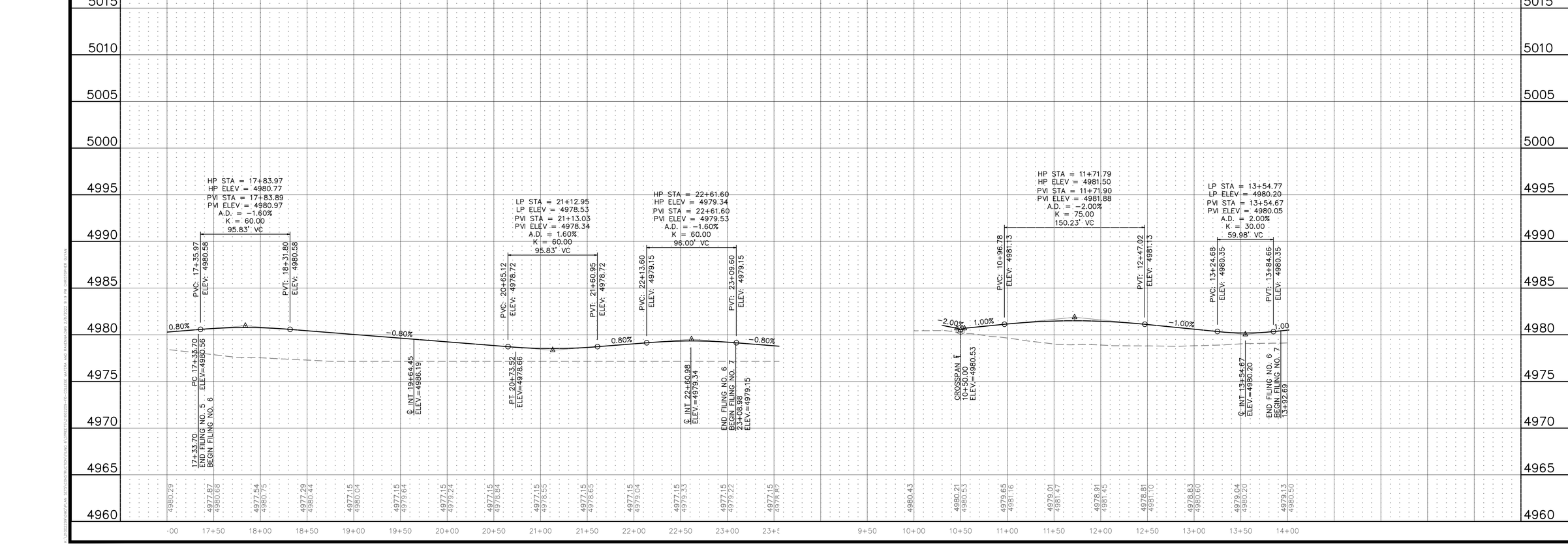
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
COLLEGE AVE. & MATERA AVE.

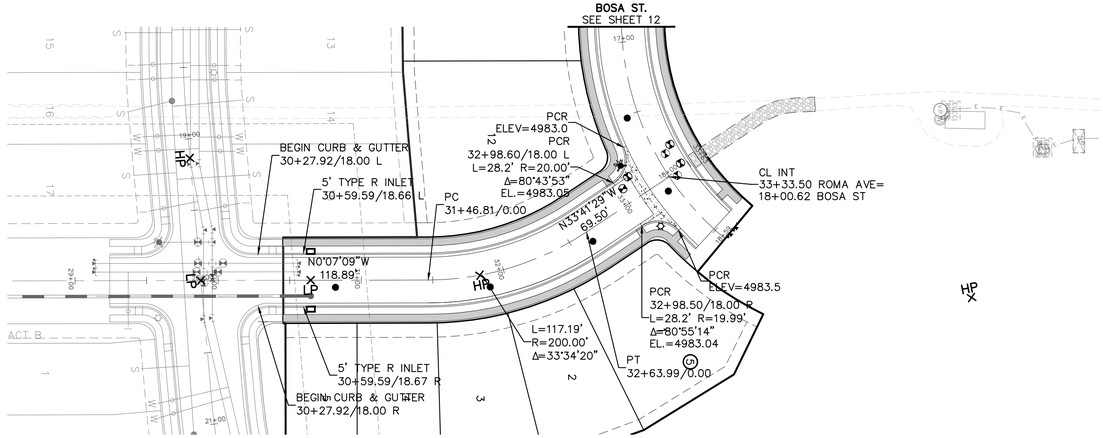
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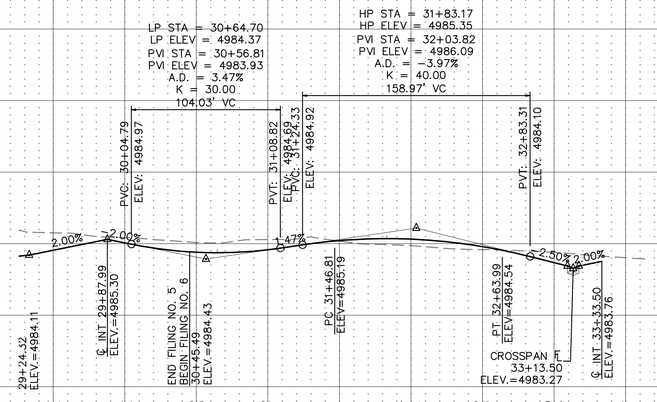
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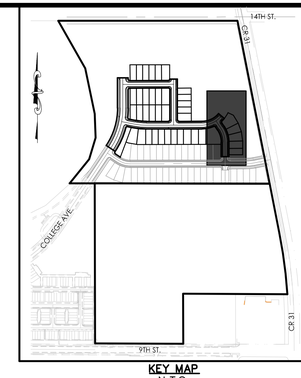
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ROMA AVE.





KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
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PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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CONSTRUCTION PLANS
STREET PLAN & PROFILE
ROMA AVE.

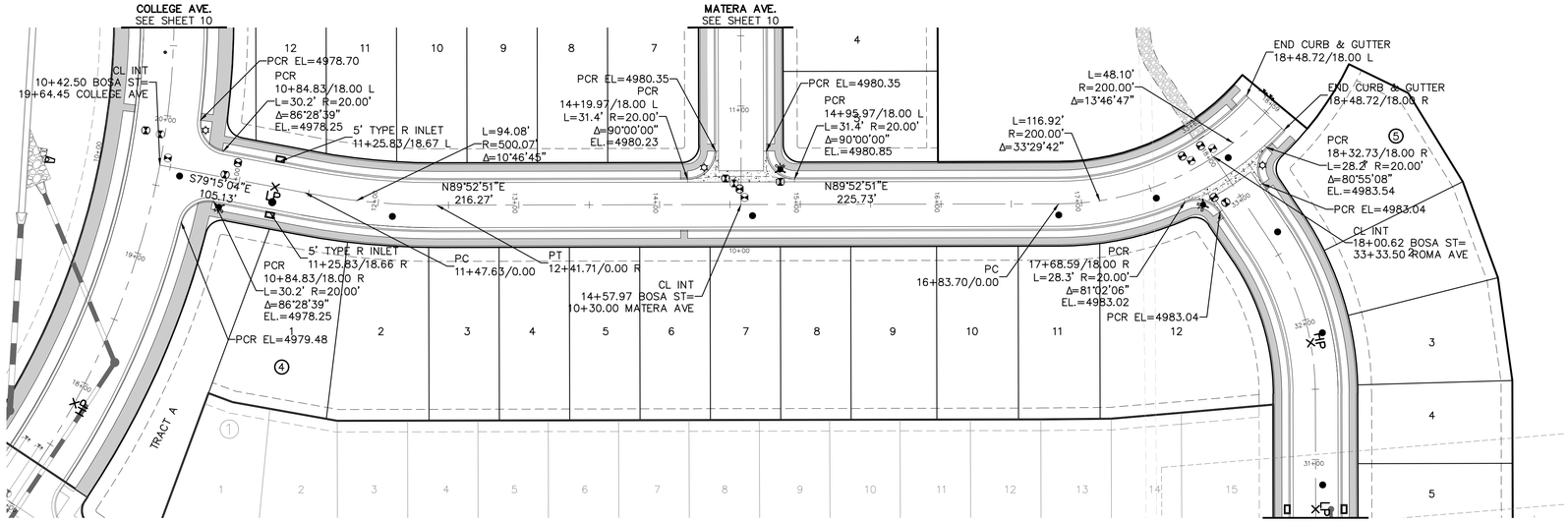
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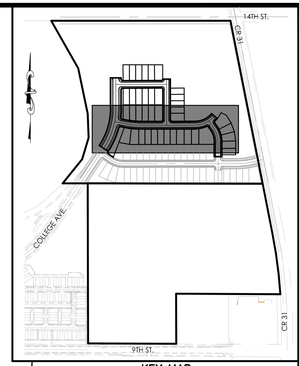
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KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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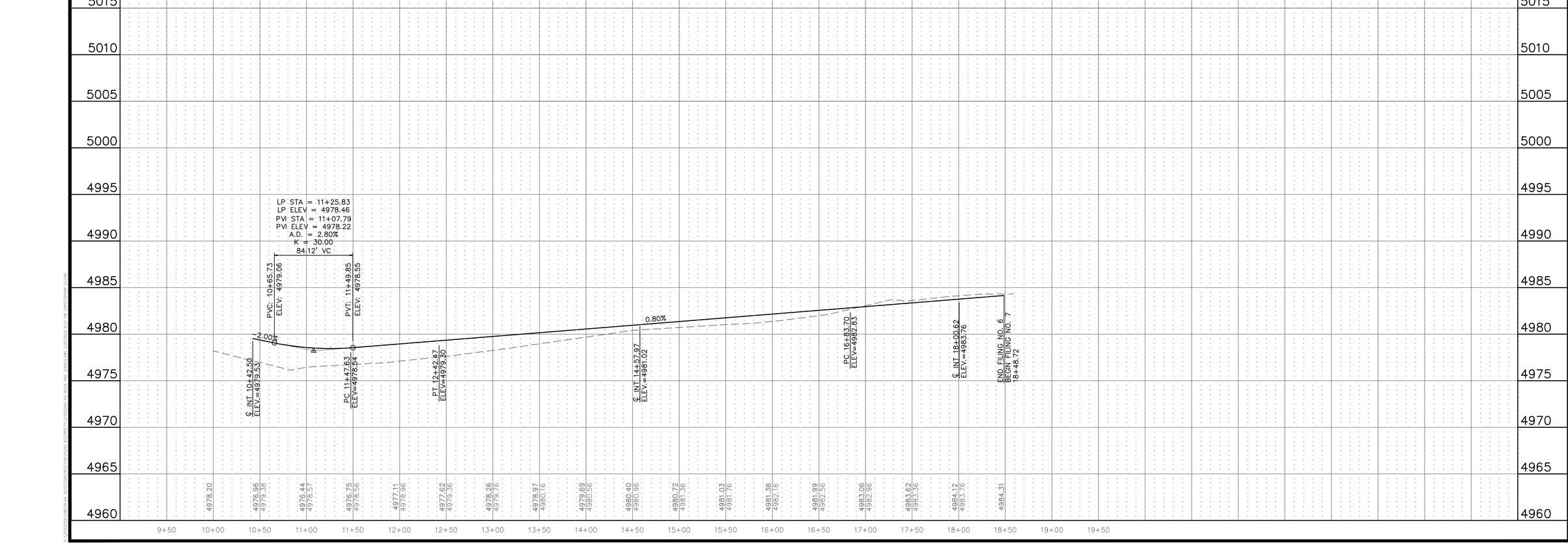
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BOSA ST.



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FORT LUPTON, COLORADO
CONSTRUCTION PLANS
STREET PLAN & PROFILE
BOSA ST.

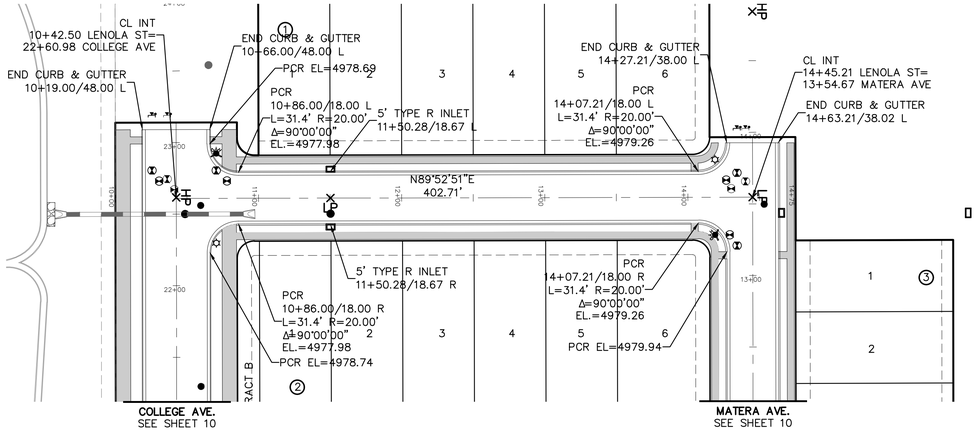
DATE 2/8/2022

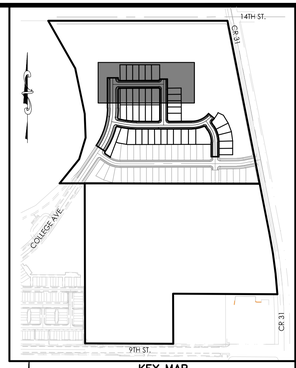
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P.M. DJR
JOB 20002948
SHEET NO. 12

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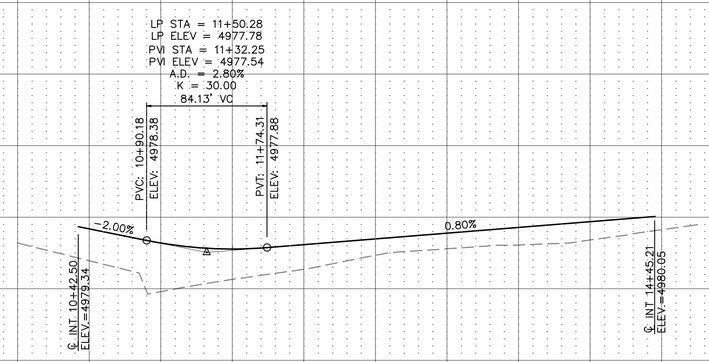




KEY MAP
N.T.S.

(IN FEET)
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1 inch = 5 ft. (Vert)

LENOLA ST.



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PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
LENOLA ST.

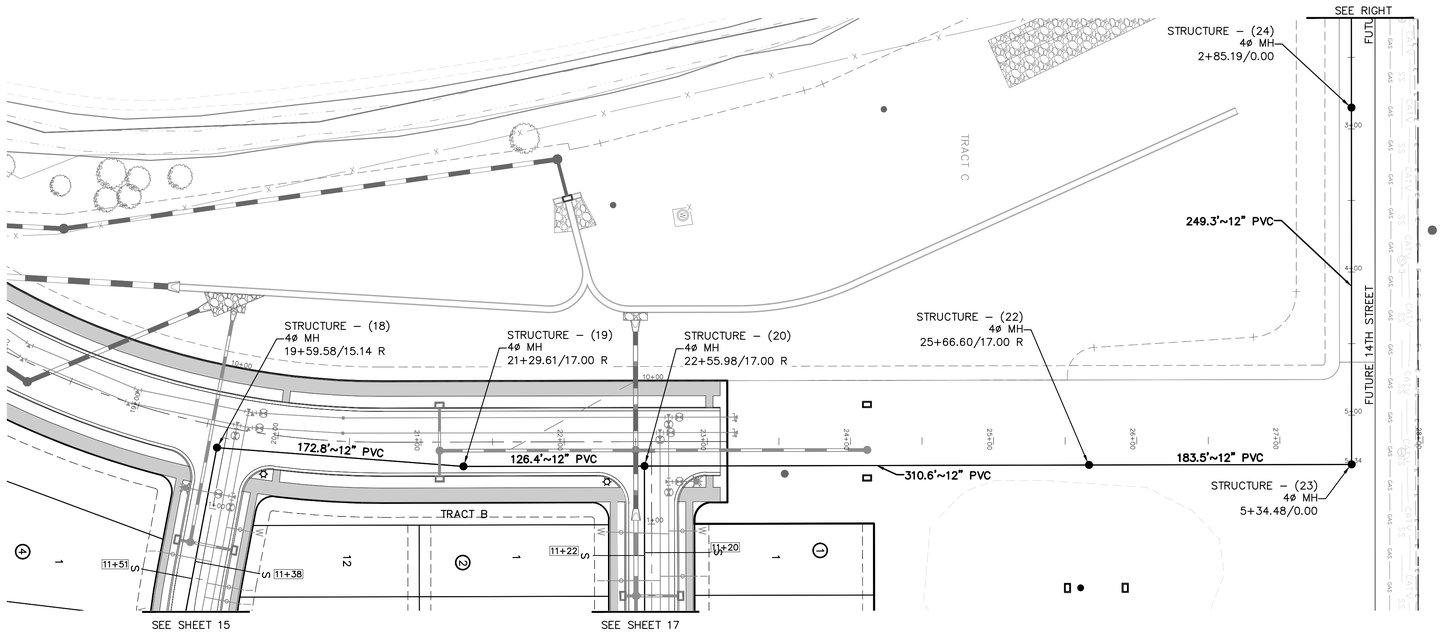
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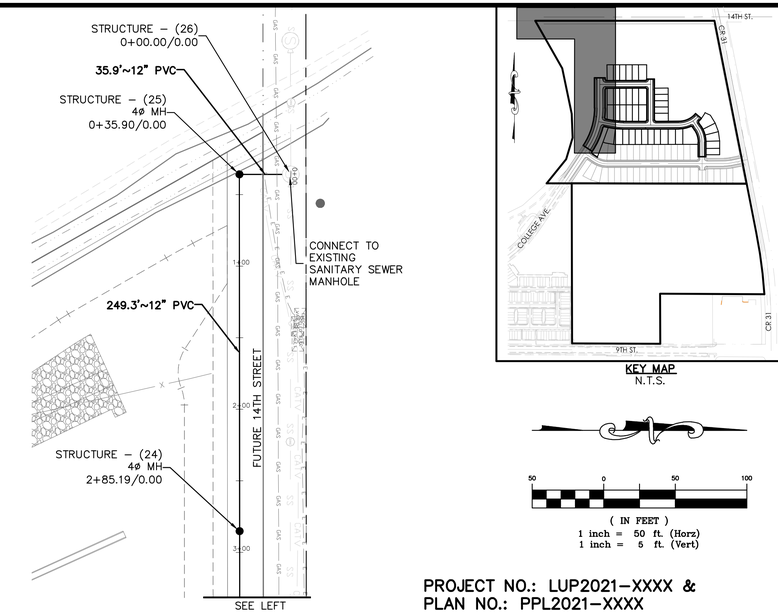
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SHEET NO. 13

CAD FILE: 21002209-F6-B03A AND LENOLA.DWG



COLLEGE AVE.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

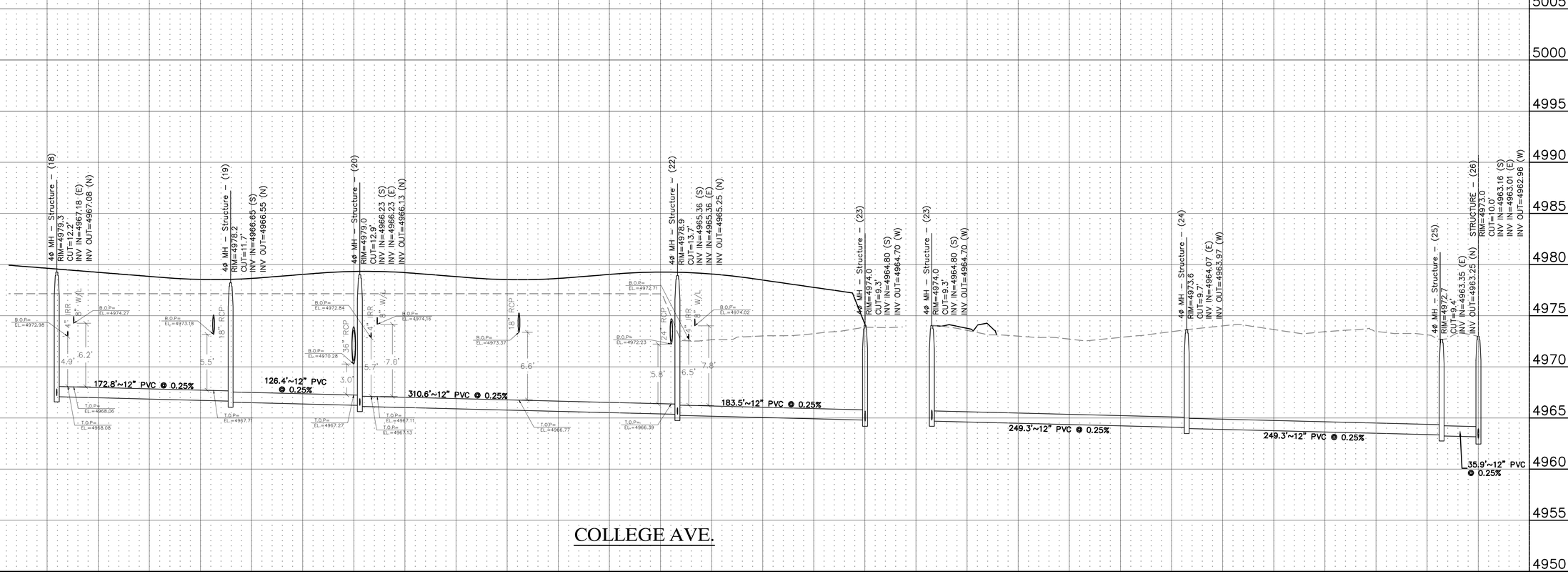
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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NGS "U 260" (NAVD88 EL=4894.42)
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COLLEGE AVE.

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CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
COLLEGE AVE.

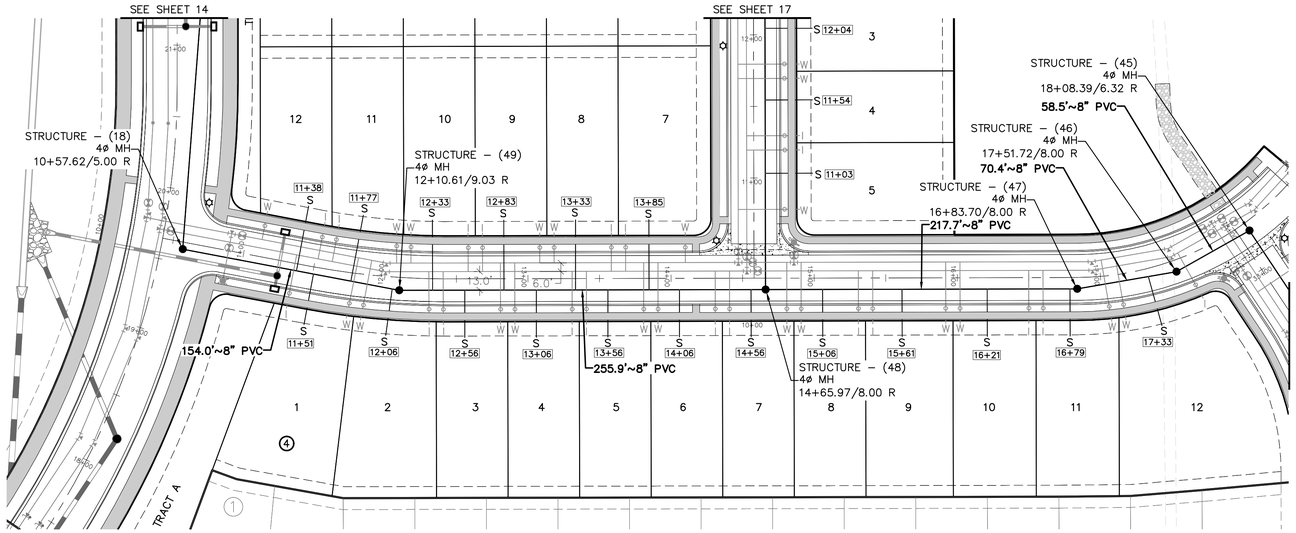
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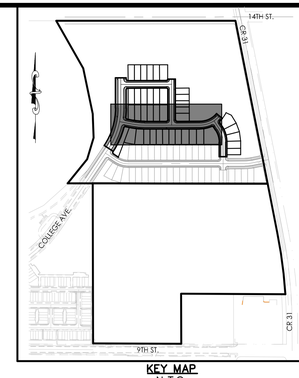
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JOB 20002948
SHEET NO. 14

CAD FILE: 21002209-F6-COLLEGE MATERA AND LENGLA-SSHR.DWG





KEY MAP
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PLAN NO.: PPL2021-XXXX

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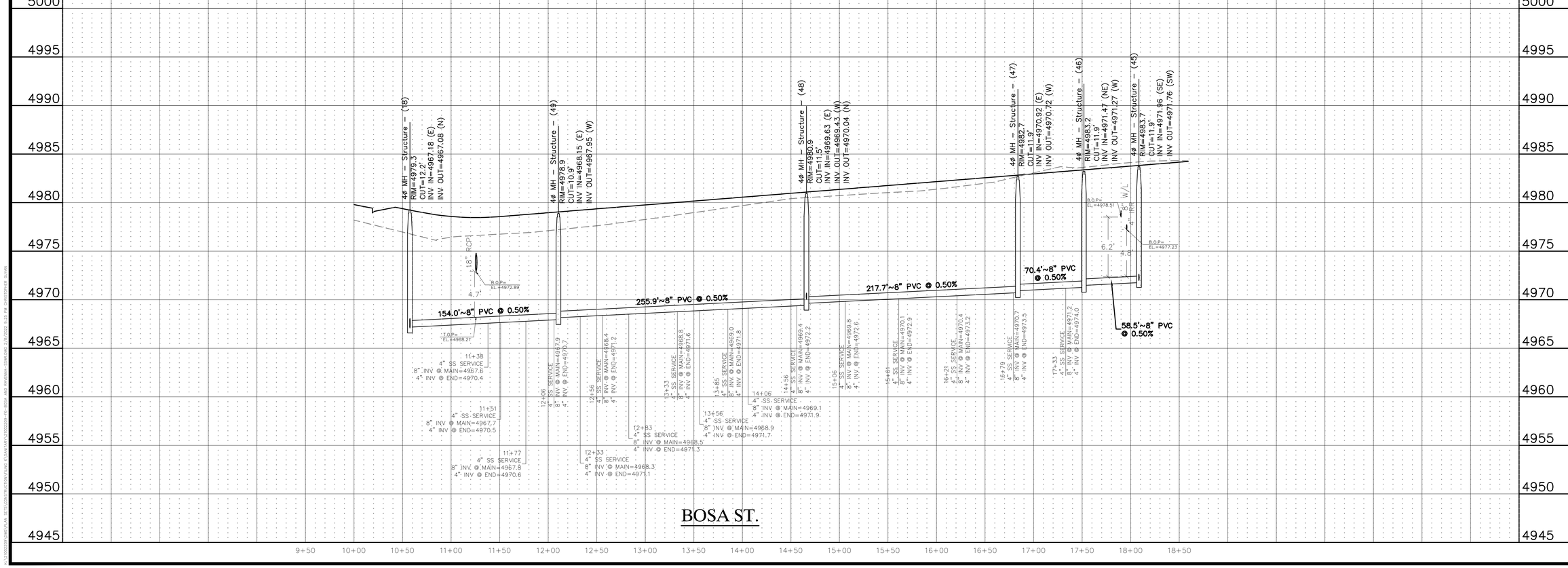
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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
BOSA ST.

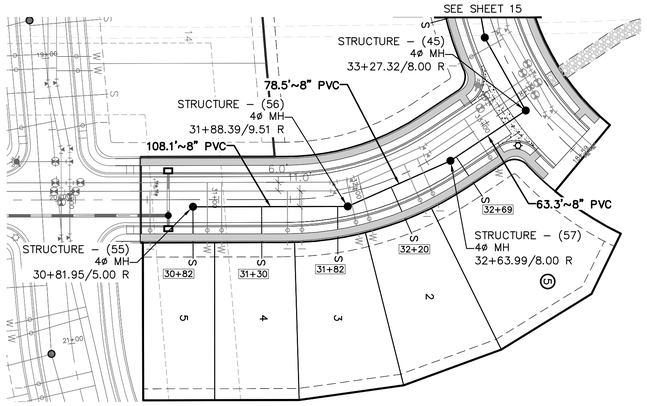
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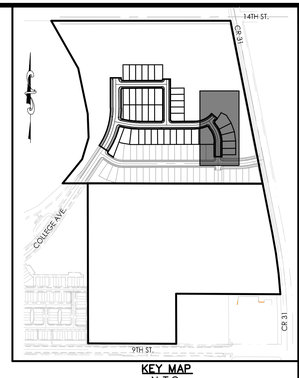
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SHEET NO. 15

CAD FILE: 21002209-F6-BOSA AND RAENNA-SSWRDWG



ROMA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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NOTES:

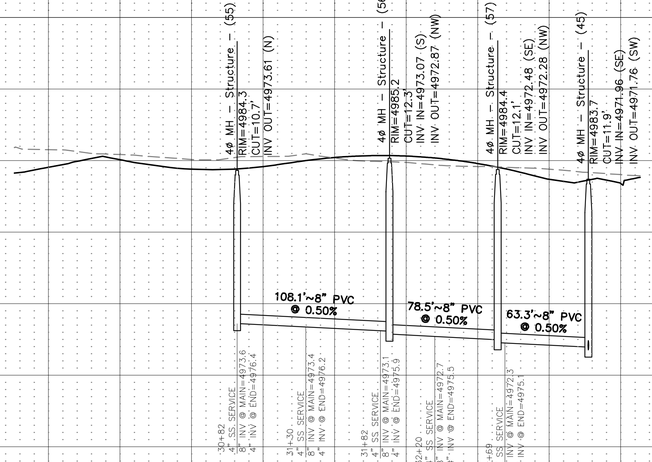
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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ROMA AVE.

29+50 30+00 30+50 31+00 31+50 32+00 32+50 33+00 33+50 34+00 34+50

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
ROMA AVE.

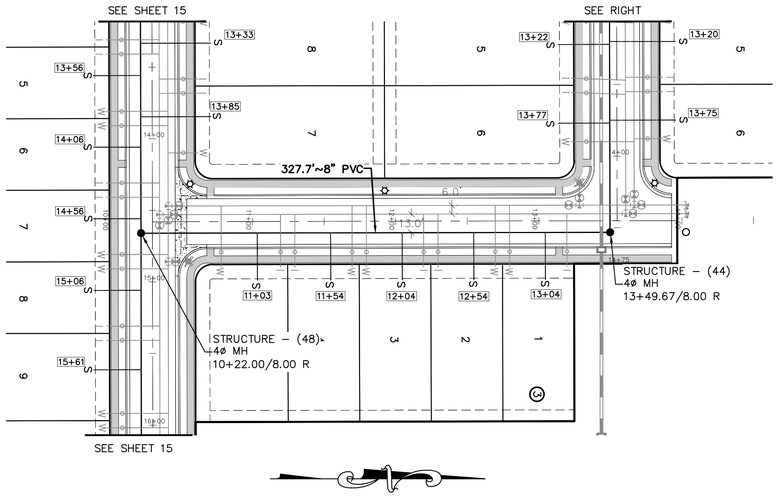
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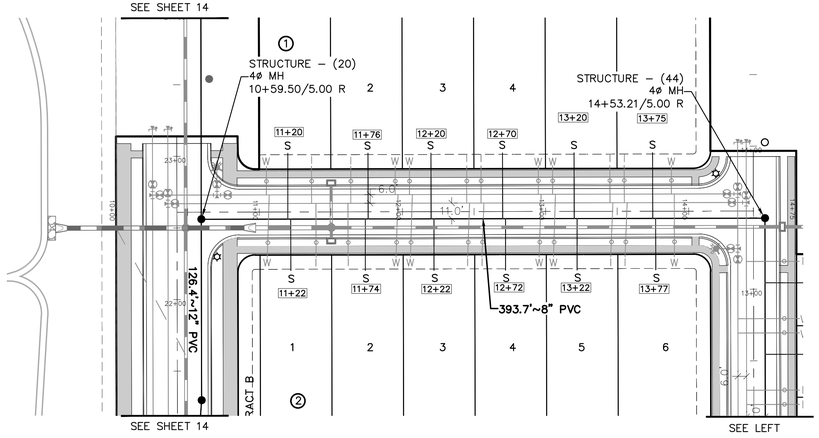
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SHEET NO. 16

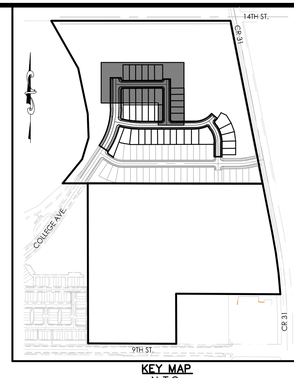
CAD FILE: 21002209-F6-B03A AND RAIENNA-SSWR.DWG



MATERA AVE.



LENOLA ST.



KEY MAP
N.T.S.

(IN FEET)
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NOTES:

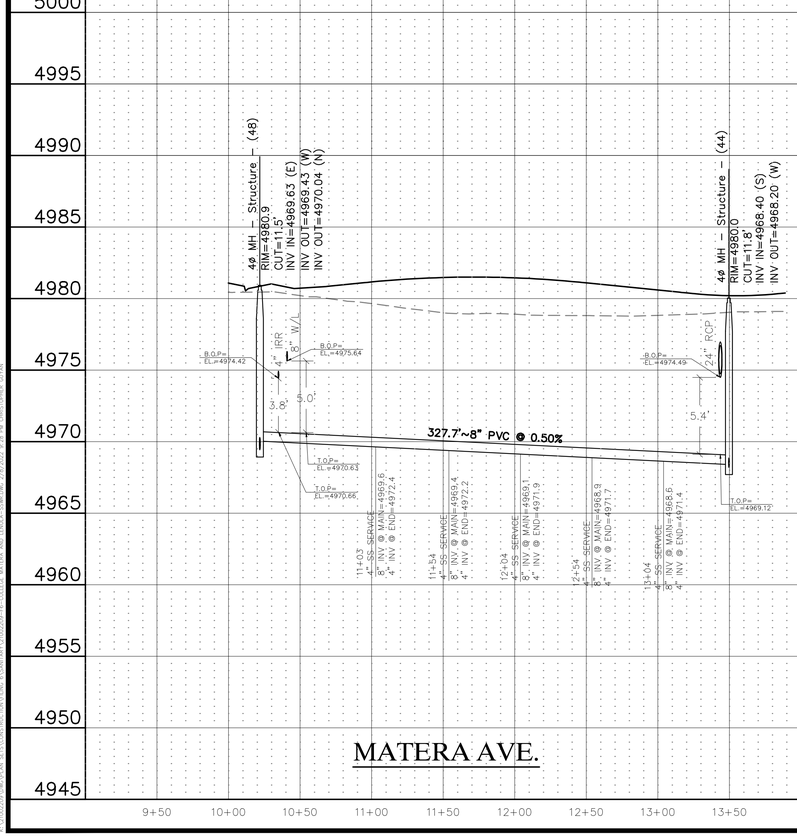
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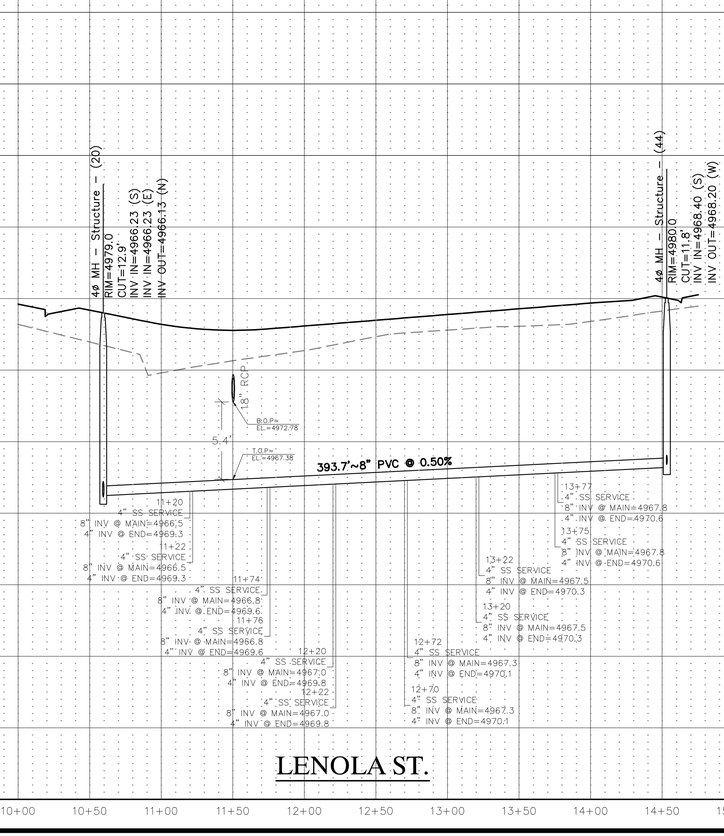
PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

BENCHMARK:

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CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
LENOLA ST. & MATERA AVE.

DATE 2/8/2022

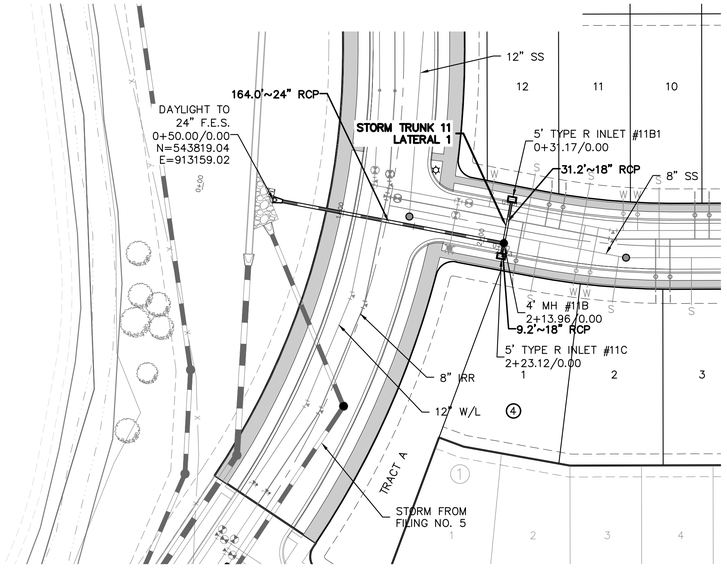
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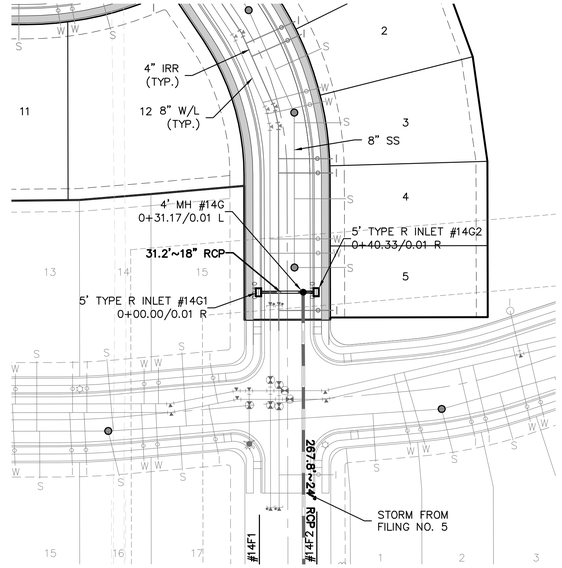
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

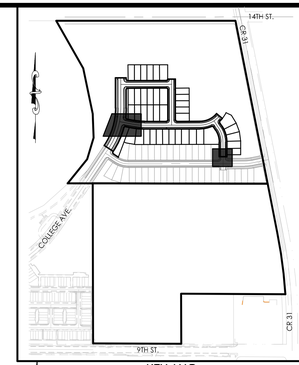
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CAD FILE: 21002209-F6-COLLEGE MATERA AND LENOLA-SSHP.DWG







KEY MAP
N.T.S.

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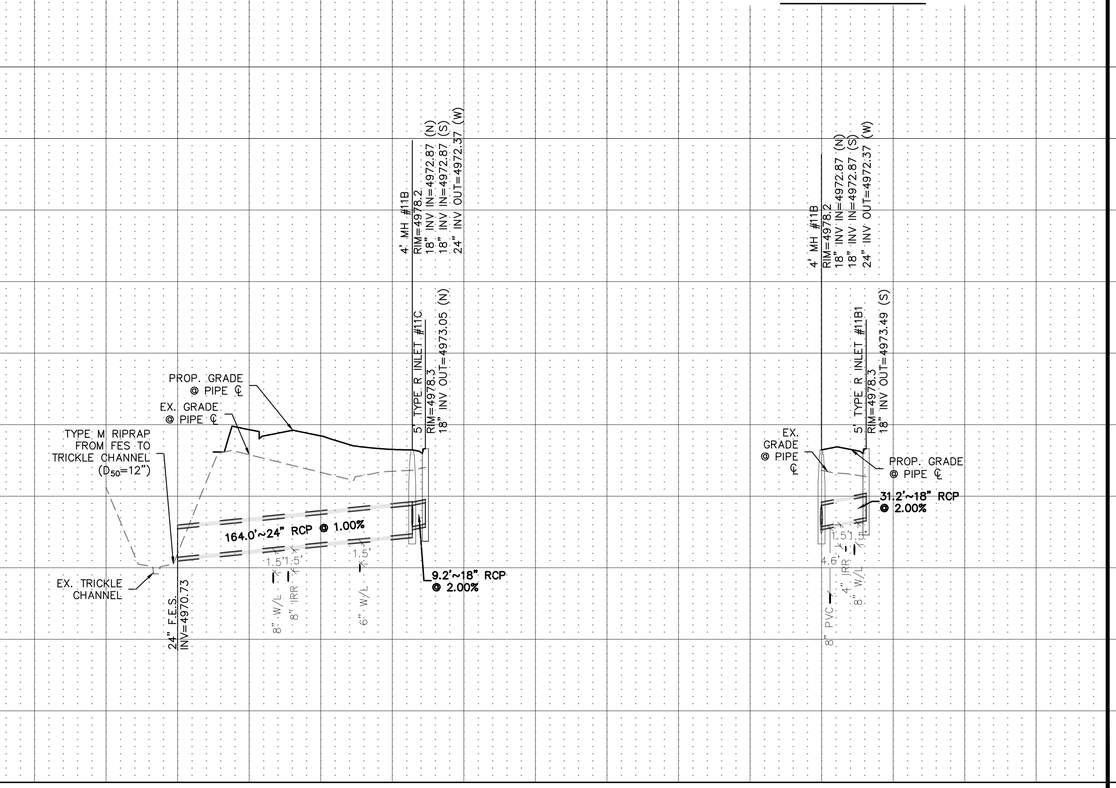
PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

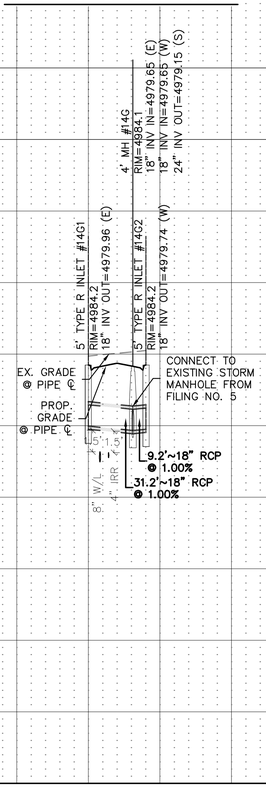
VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

STORM TRUNK 11



STORM TRUNK 11 LATERAL 1

STORM TRUNK 14 INITIAL LATERAL



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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 11 & 14

DATE 2/8/2022

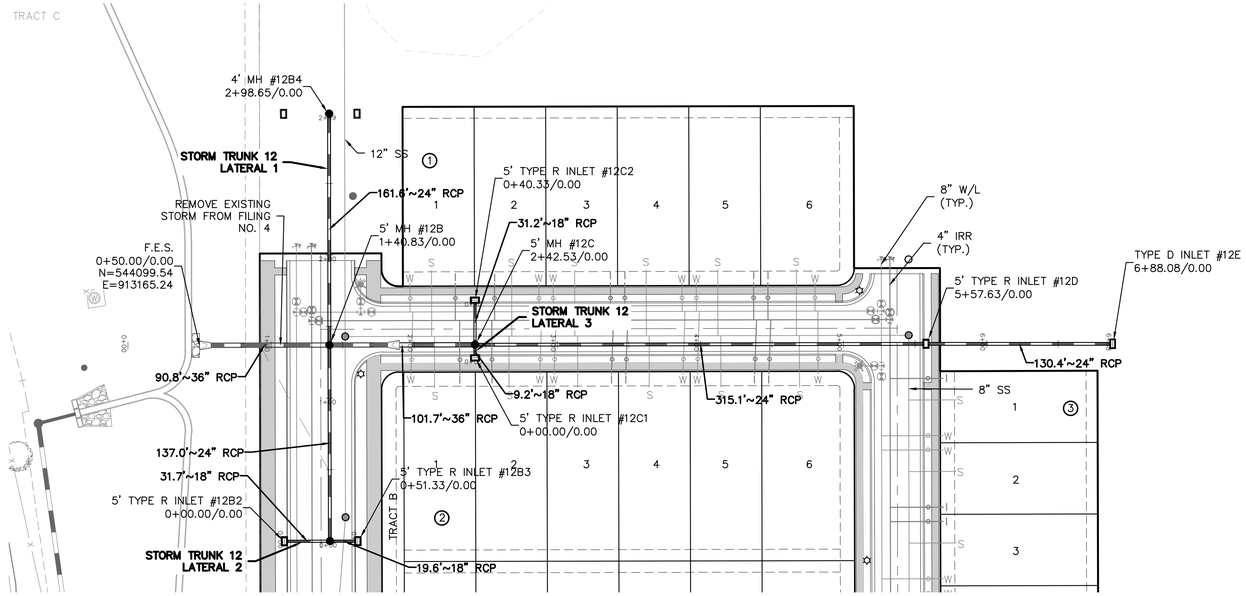
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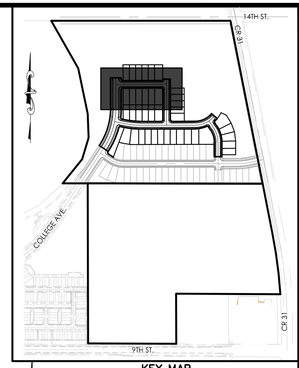
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 18

CAD FILE: 21002209-F6-STORM.DWG

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KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 12

DATE 2/8/2022

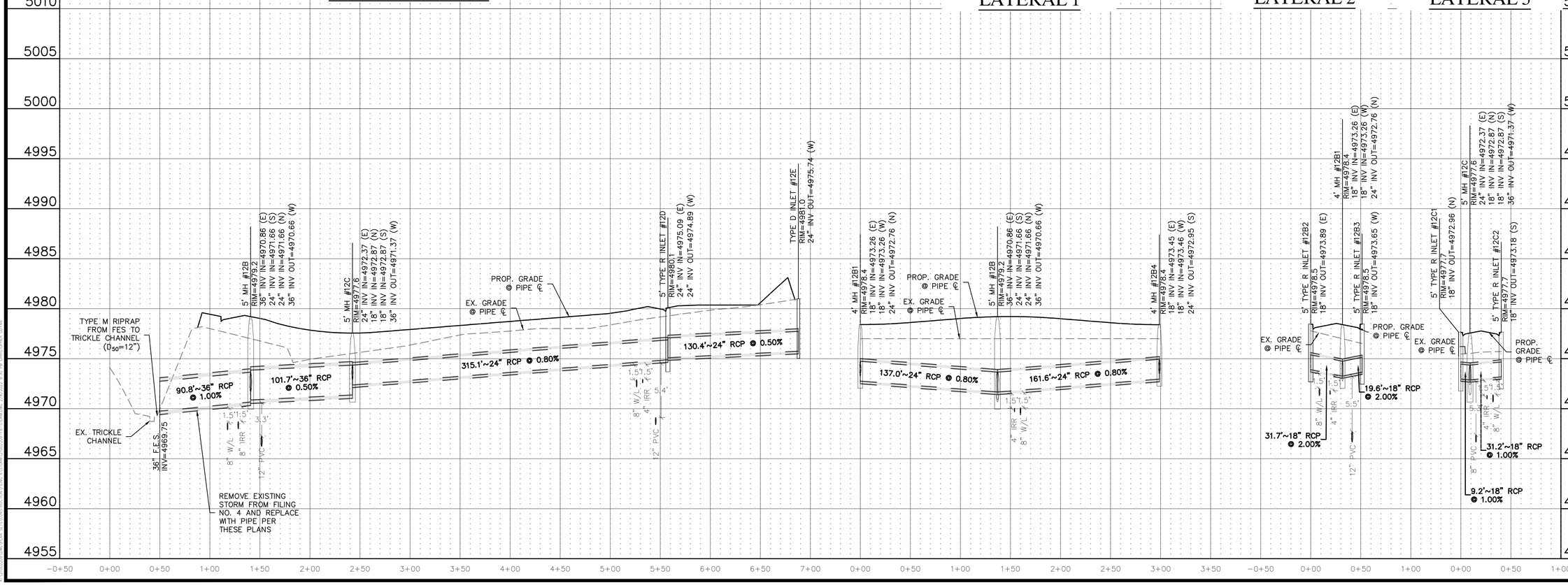
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 20002948
SHEET NO. 19

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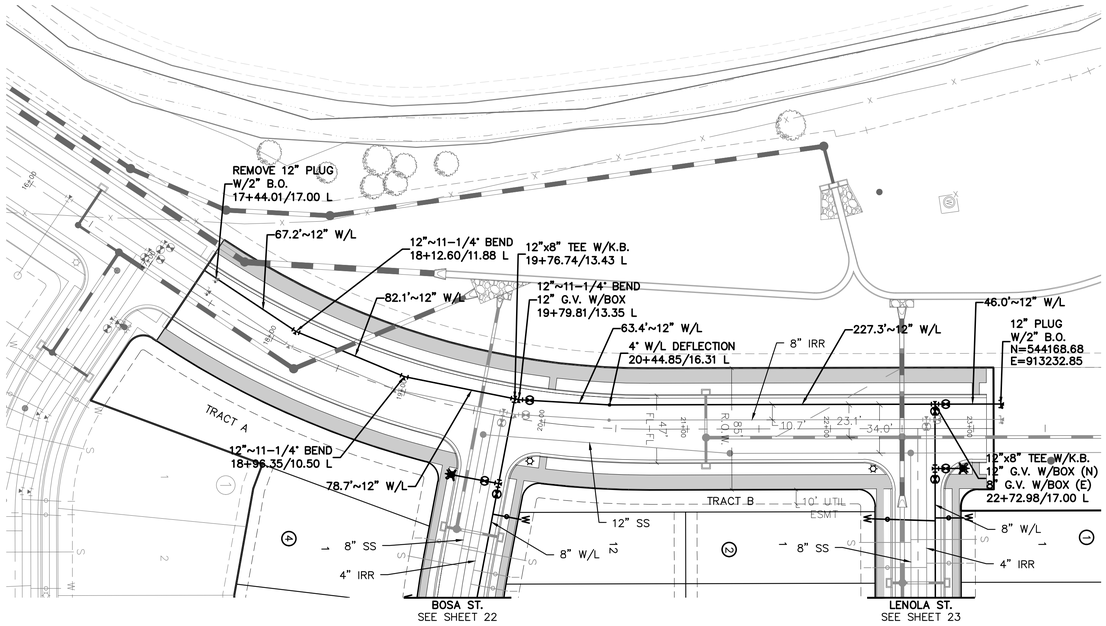
STORM TRUNK 12



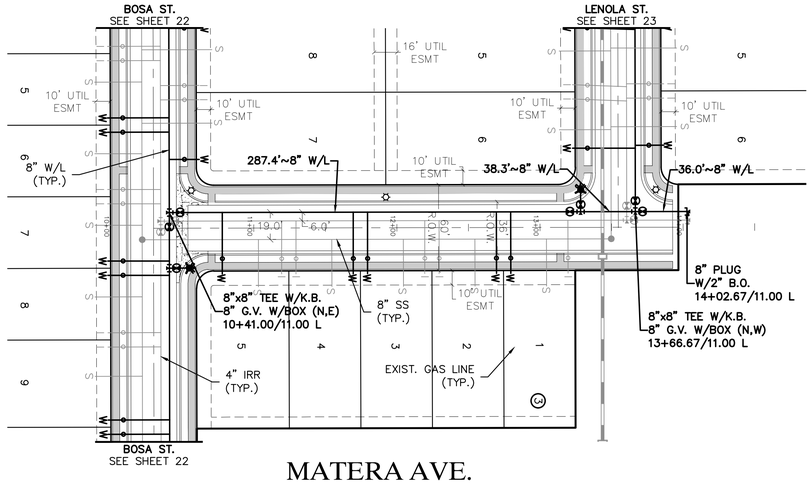
STORM TRUNK 12 LATERAL 1

STORM TRUNK 12 LATERAL 2

STORM TRUNK 12 LATERAL 3



COLLEGE AVE.



MATERA AVE.

NOTES:

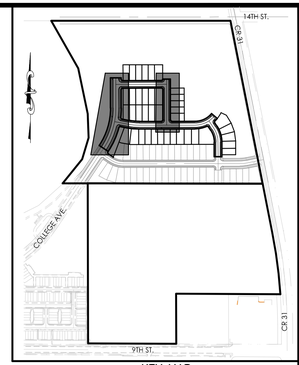
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KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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NGS "U 260" (NAVD88 EL=4894.42)
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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
COLLEGE AVE. & MATERA AVE.

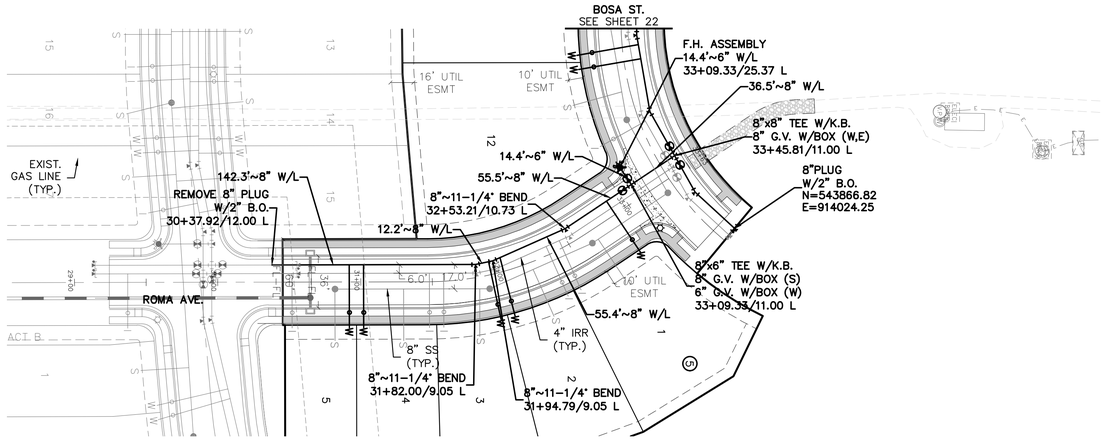
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REVISIONS

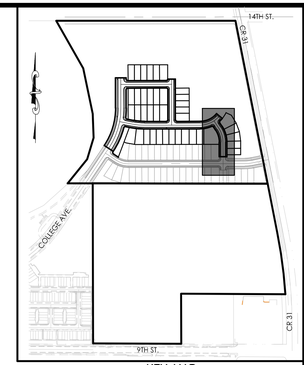
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 20

CAD FILE: 21002209-F6-WATER P&P-01.DWG



ROMA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
ROMA AVE.

DATE 2/8/2022

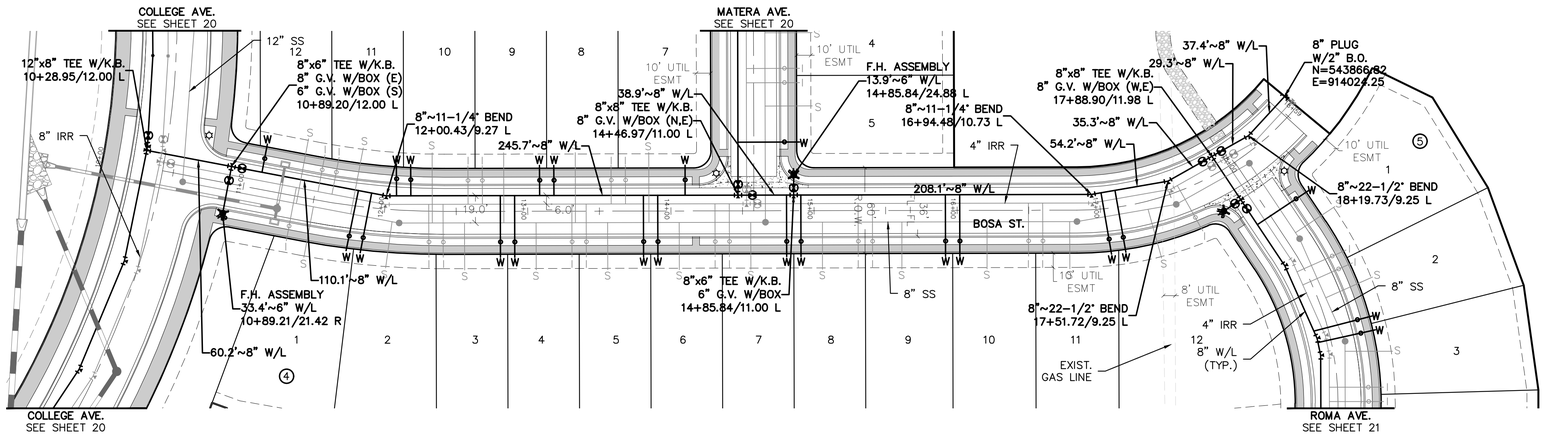
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PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

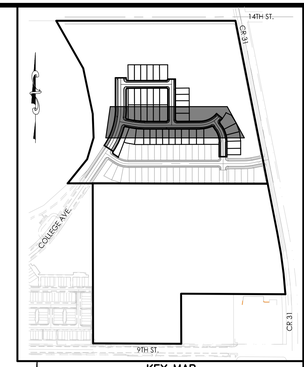
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P.M. DJR
JOB 21002209
SHEET NO. 21

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BOSA ST.



KEY MAP
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50 0 50 100

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PLAN NO.: PPLXXXX-XXXX

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
BOSA ST.

DATE 2/8/2022

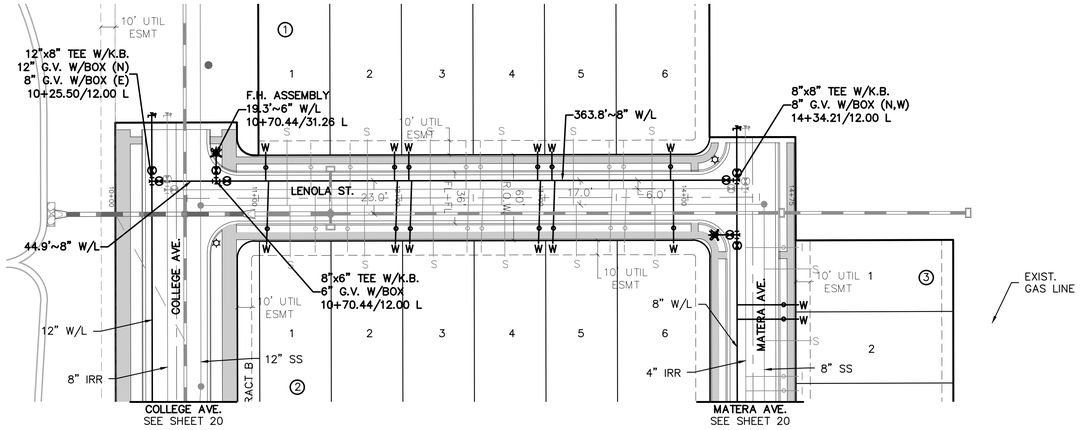
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PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

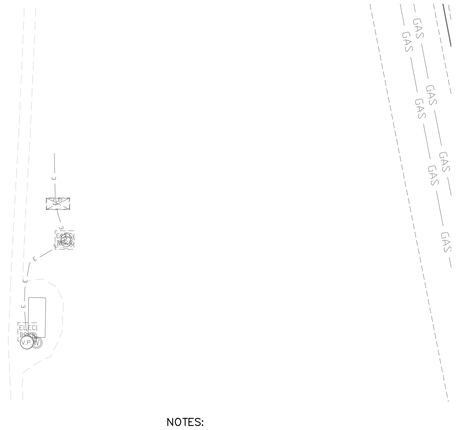
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JOB 21002209
SHEET NO. 22

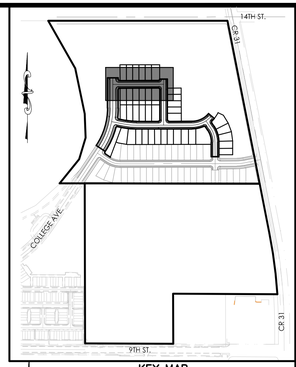
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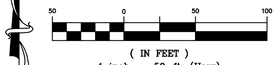


LENOLA ST.





KEY MAP
N.T.S.



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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
LENOLA ST.

DATE 2/8/2022

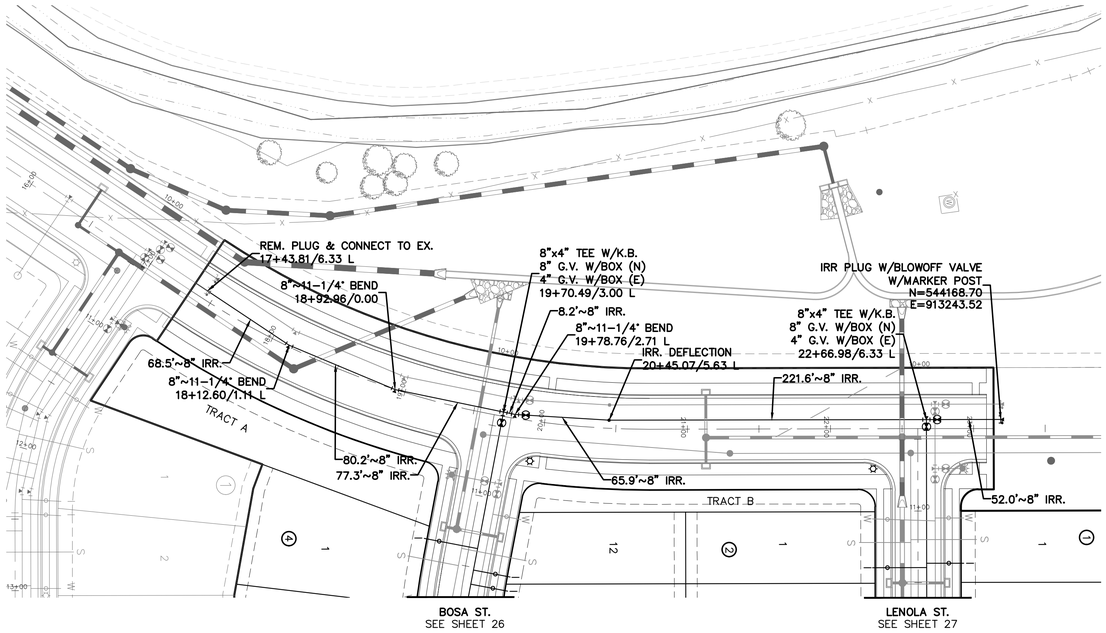
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NOT FOR CONSTRUCTION

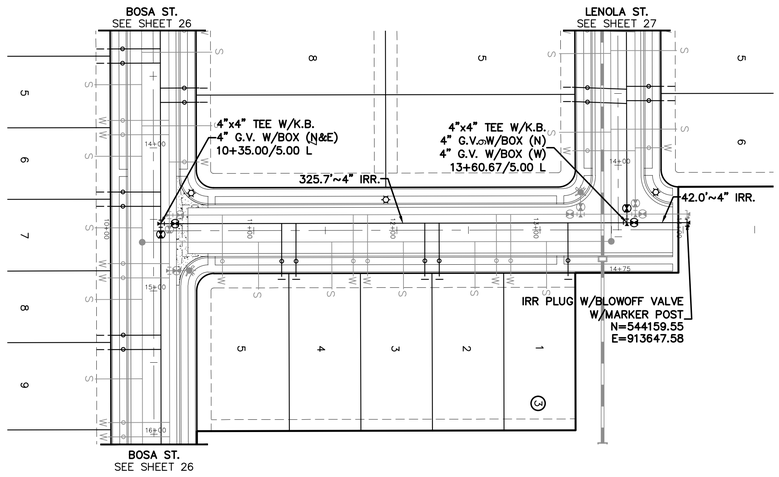
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JOB 21002209
SHEET NO. 23

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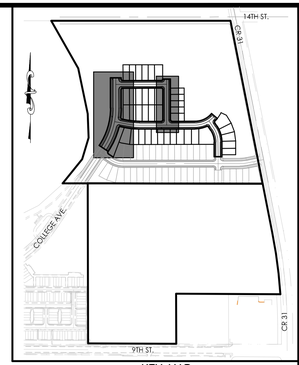
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COLLEGE AVE.



MATERA AVE.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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1 inch = 5 ft. (Vert)

NOTES:

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2. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

3. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
COLLEGE AVE. & MATERA AVE.

DATE 2/8/2022

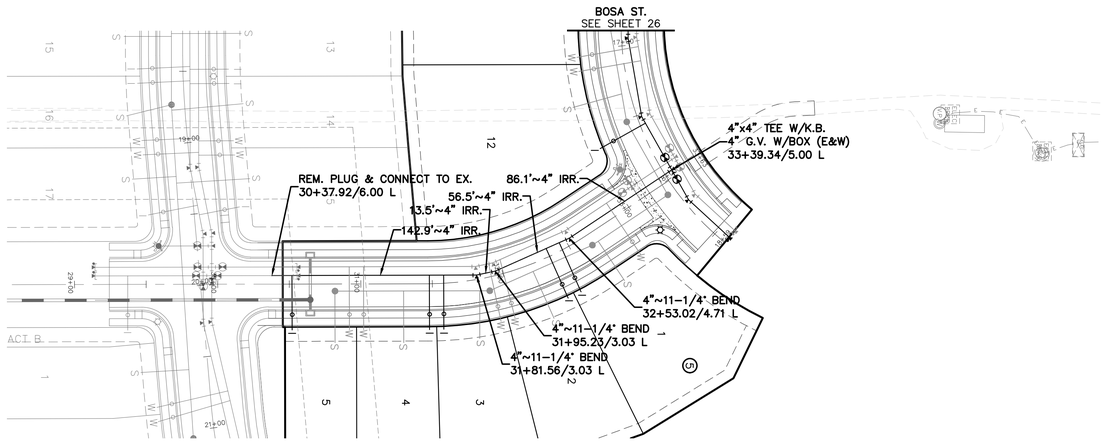
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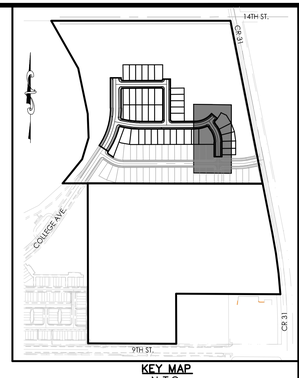
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 24

CAD FILE: 21002209-F6-COLLEGE MATERA AND RAVENNA-IRR.DWG

I:\2021\21002209\Engineering\Drawings\Irrigation\21002209-F6-COLLEGE MATERA AND RAVENNA-IRR.DWG 2/8/2022 3:14 PM EAPERSON





KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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1 inch = 5 ft. (Vert)

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
ROMA AVE.

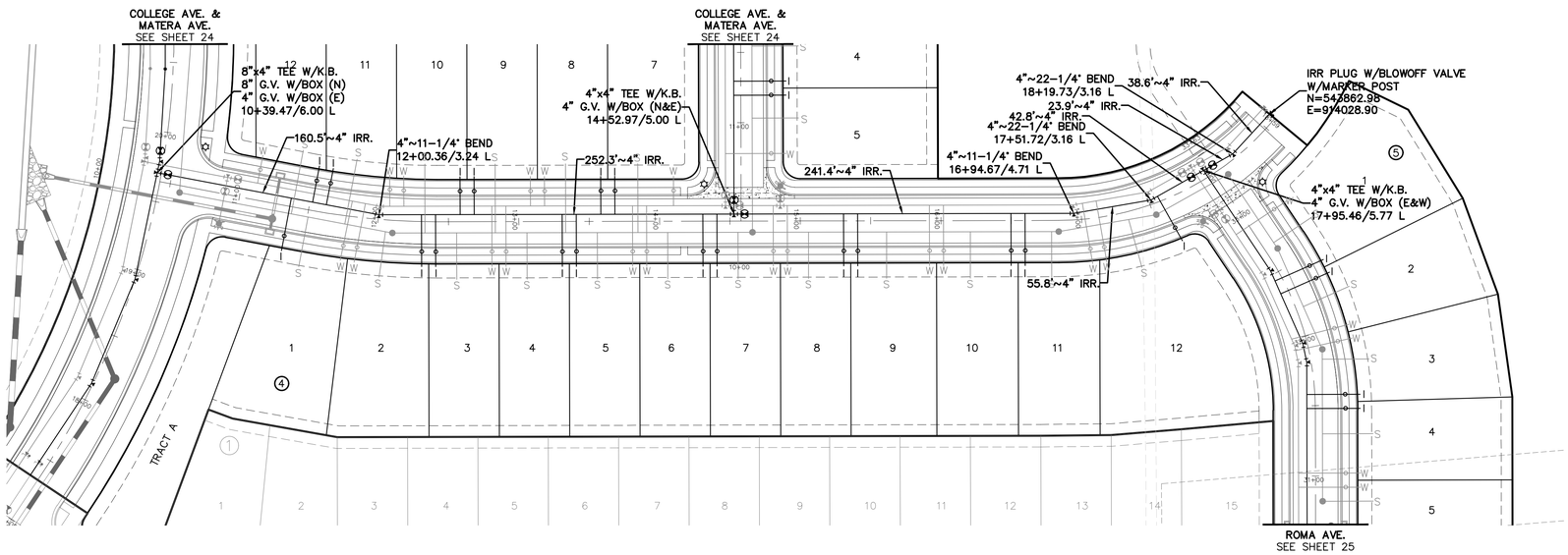
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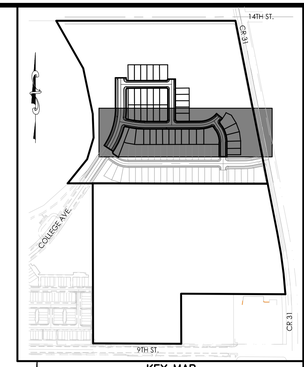
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JOB 21002209
SHEET NO. 25

CAD FILE: 21002209-F6-COLLEGE MATERA AND RAVENNA-IRR.DWG



BOSA ST.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
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PROJECT NO.: LUPXXXX-XXXX &
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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
BOSA ST.

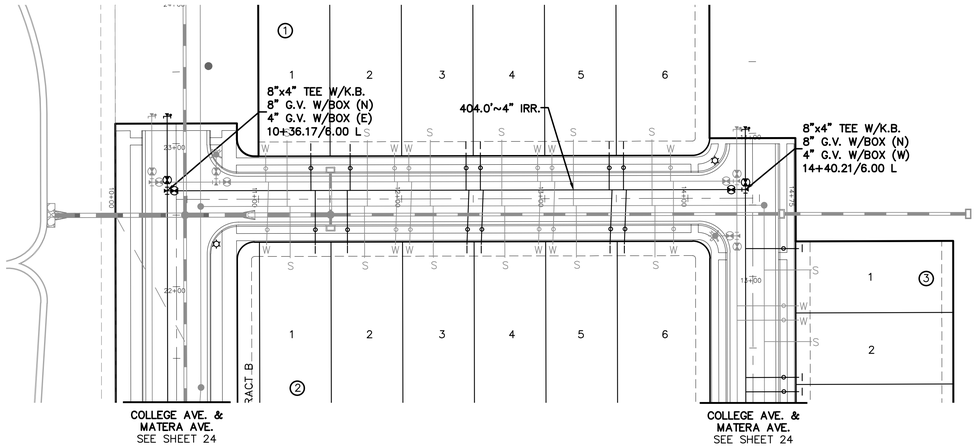
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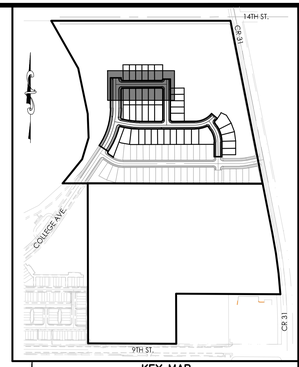
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SHEET NO. 26

CAD FILE: 21002209-F6-BOSA AND LENOLA-IRR.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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1 inch = 5 ft. (Vert)

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PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
LENOLA ST.

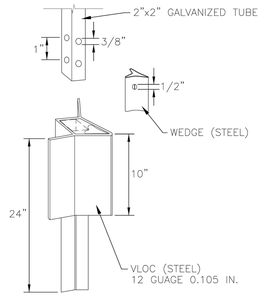
DATE 2/8/2022

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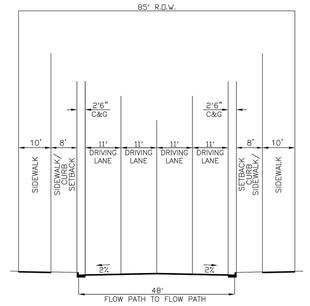
PLANS UNDER REVIEW
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CAD FILE: 21002209-F6-BOSA AND LENOLA-IRR.DWG



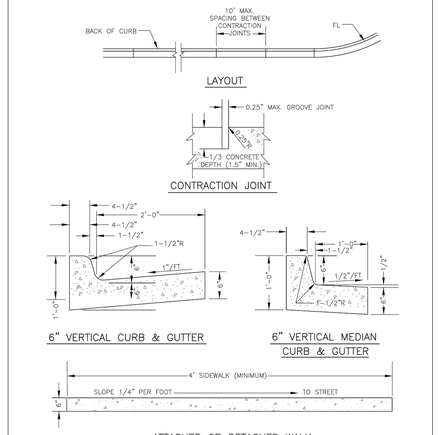
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14



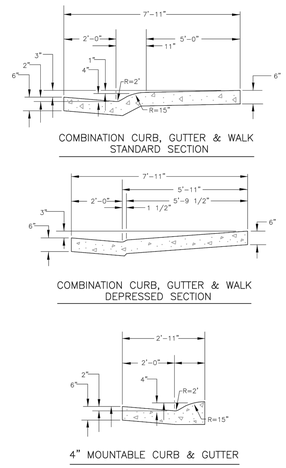
- PROVIDE WIDENING AT INTERSECTIONS FOR LEFT TURN LANES AND ACCEL/DECEL LANES RIGHT-OF-WAY WIDTH TO BE INCREASED TO 105' IN THESE AREAS.
- NO PARKING ALLOWED
- USED IN AREAS WHERE THERE IS LIMITED ACCESS AND PROJECTED TRAFFIC VOLUMES ARE GREATER THAN 10,000 VEHICLES PER DAY.

COLLECTOR PHASE III

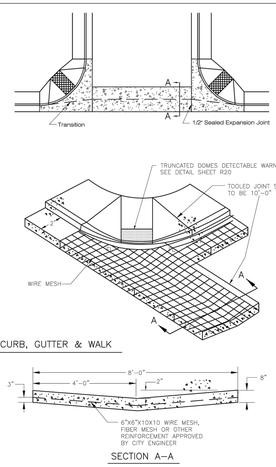
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COLLECTOR - PHASE 3 TYPICAL SECTION	R2-3
		DATE: 11/21/19



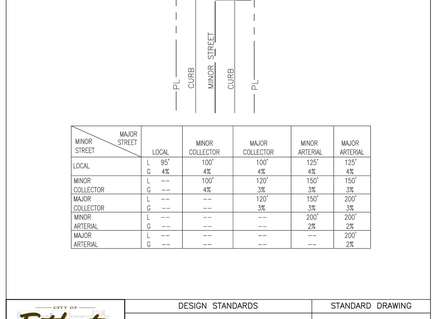
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14

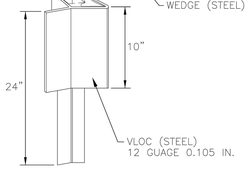


CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SIDEWALK RAMP WITH CROSS PAN	R11
		DATE: 3/15/17



MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
STREET DETAILS

DATE 2/8/2022

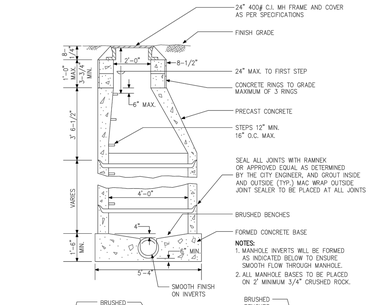
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

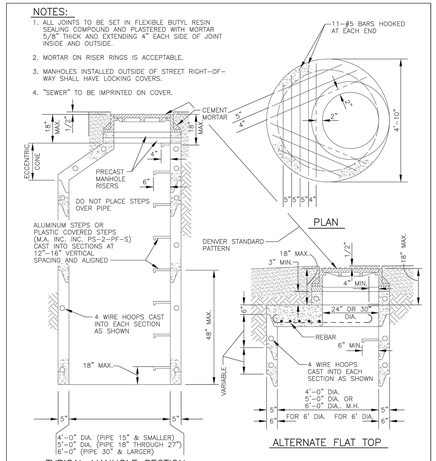
DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 28

CAD FILE: 21002209-F6-STREET DETAILS.DWG

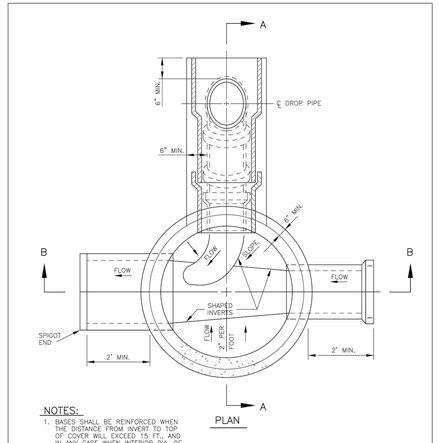
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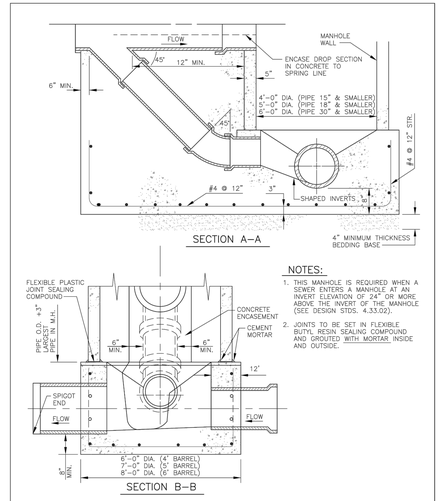
DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14



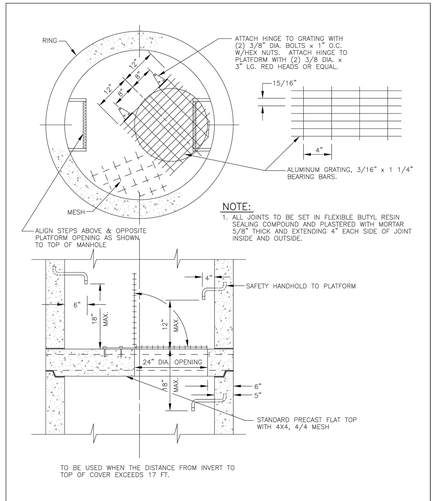
DESIGN STANDARDS	STANDARD DRAWING
MANHOLE BARRELS AND ALTERNATE TOPS	SS2
	DATE: 8/15/14



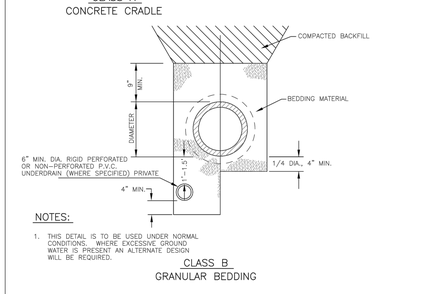
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MONOLITHIC BASES FOR DROP MANHOLE	SS3
	DATE: 8/15/14



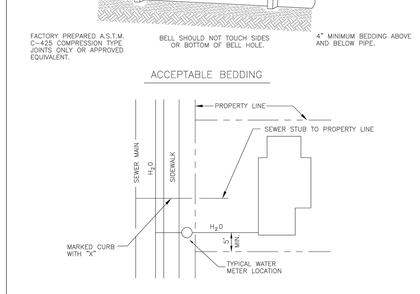
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DROP MANHOLE DETAIL	SS4
	DATE: 8/15/14



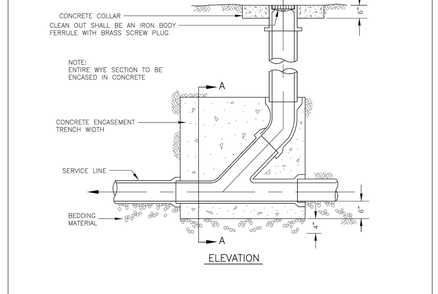
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INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14



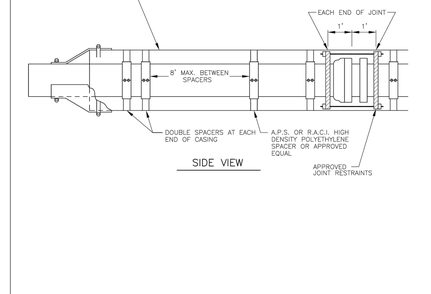
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14



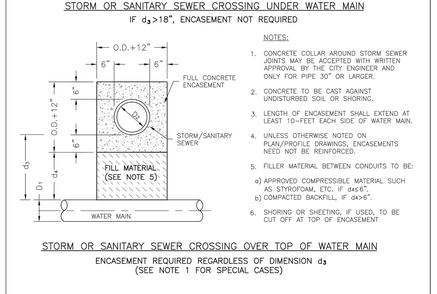
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

811
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303.462.1100

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
SANITARY DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 29

CAD FILE: 21002209-F6-SANITARY DETAILS.DWG

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

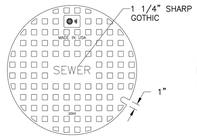
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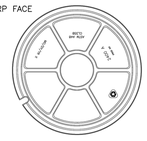
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VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

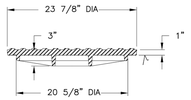
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2400A Cover

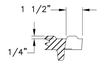




COVER BACK



SECTION



PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Gray Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

Certification
- ASTM A48
-Country of Origin USA

CITY OF Fort Lupton COLORADO
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DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER MANHOLE LID	SS12
	DATE: 5/04/2017

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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CONSTRUCTION PLANS
DETAILS
SANITARY DETAILS

DATE 2/8/2022

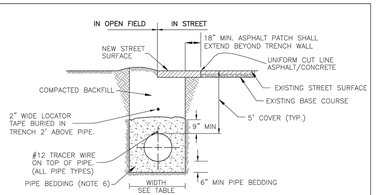
REVISIONS

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DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 30

CAD FILE: 21002209-F6-SANITARY DETAILS.DWG

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TYPICAL TRENCH SECTION

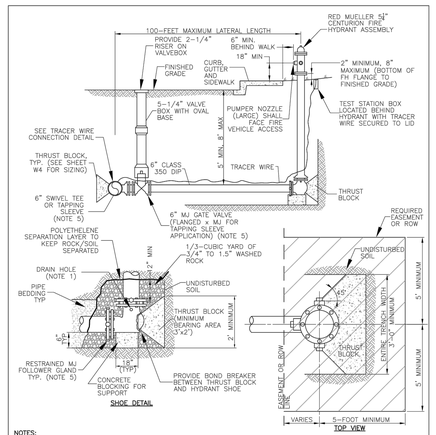
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM, HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

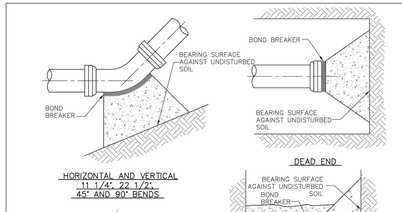
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



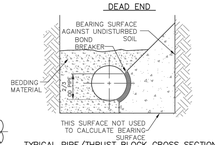
NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

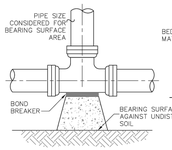
DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS



DEAD END



TEE OR TAPPING SLEEVE

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA

(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

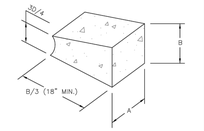
MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

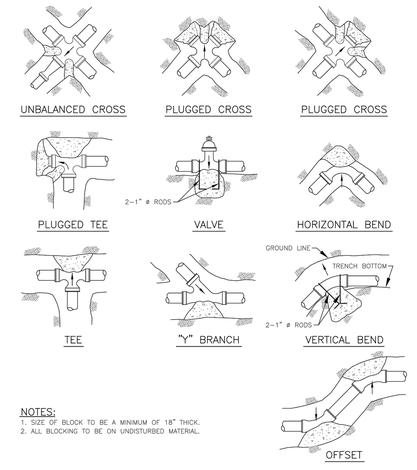
GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).



NOT TO SCALE

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" AND 2" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT SHALL BE DI. FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE RESTRICTED TO BENDS, TEES, AND VALVES.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER STRAINER SHALL BE INSTALLED ON THE INLET SIDE OF THE METER. ALL METER STRAINERS SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. METER VAULT SHALL BE LOCATED WITHIN 10' OF THE WATER MAIN.
14. NOTE: VAULT ROOFING, PLATES AND ALL PLATES MUST BE MANUFACTURED FROM STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

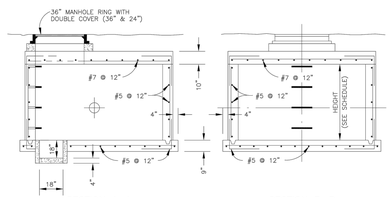
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 31

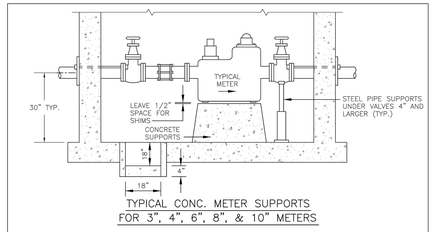
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METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

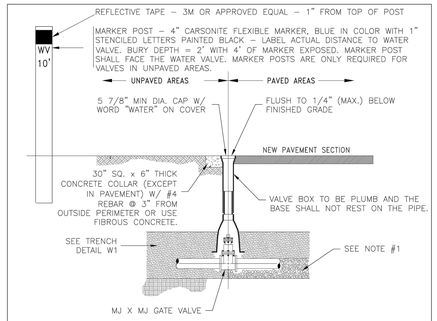
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL METER VAULT	W12
	DATE: 8/15/14



NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

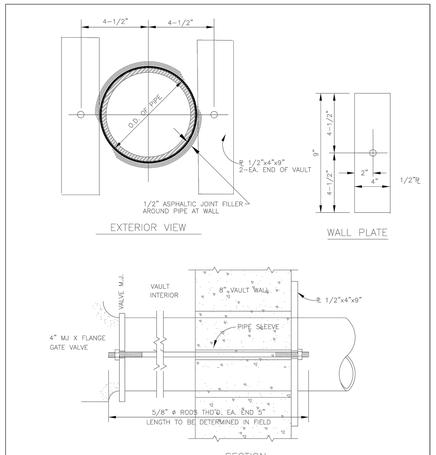
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CONCRETE METER SUPPORTS	W13
	DATE: 8/15/14

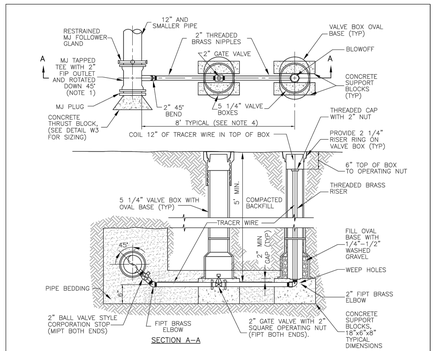


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
WALL CLAMP	W15
	DATE: 8/15/14



NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE FLANGE. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPING.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING THRUST BLOCKS.

DESIGN STANDARDS	STANDARD DRAWING
STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
	DATE: 8/15/14

NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.

DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14

HOST PIPE SIZE	MH ID
12" AND SMALLER	4'
14" TO 24"	5'
30" TO 36"	6'
42" TO 48"	7'
54" AND LARGER	AS APPROVED BY CITY

NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

DESIGN STANDARDS	STANDARD DRAWING
COMBINATION AIR VALVE INSTALLATION	W19
	DATE: 8/15/14

CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
BORING DETAIL	W22
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
WATER VAULT LID	W24
	DATE: 8/15/14

NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

DESIGN STANDARDS	STANDARD DRAWING
WET TAP CONNECTION - 4" AND LARGER TAP	W25
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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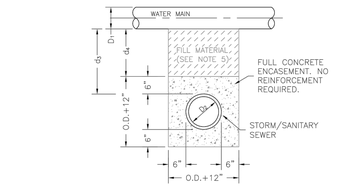
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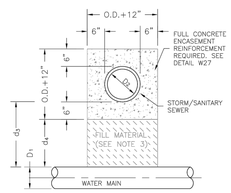
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JOB 21002209
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CAD FILE: 21002209–6–WATER DETAILS.DWG
LAST SAVED BY: CJG ON 2/8/2022 8:21 AM USING DWG: 21002209–6–WATER DETAILS.DWG



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

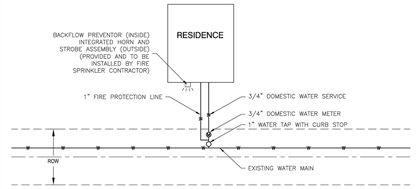
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d4≤6". COMPACTED BACKFILL, IF d4>6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ENCASEMENT FOR CONDUIT CROSSING	W26
		DATE: 8/15/14

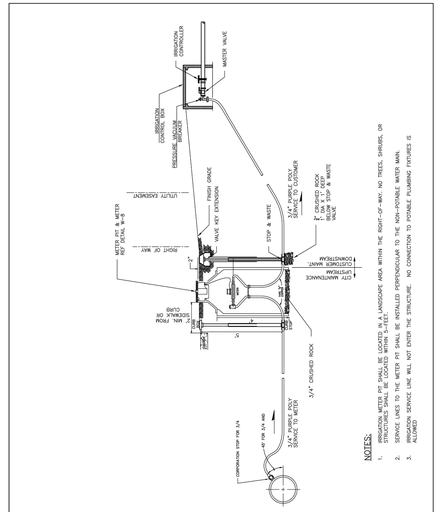
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SINGLE WATER TAP FOR FIRE LINE	W29
		DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-ROTABLE WATER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	3/4" & 1" IRRIGATION METER SETS	W30
		DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

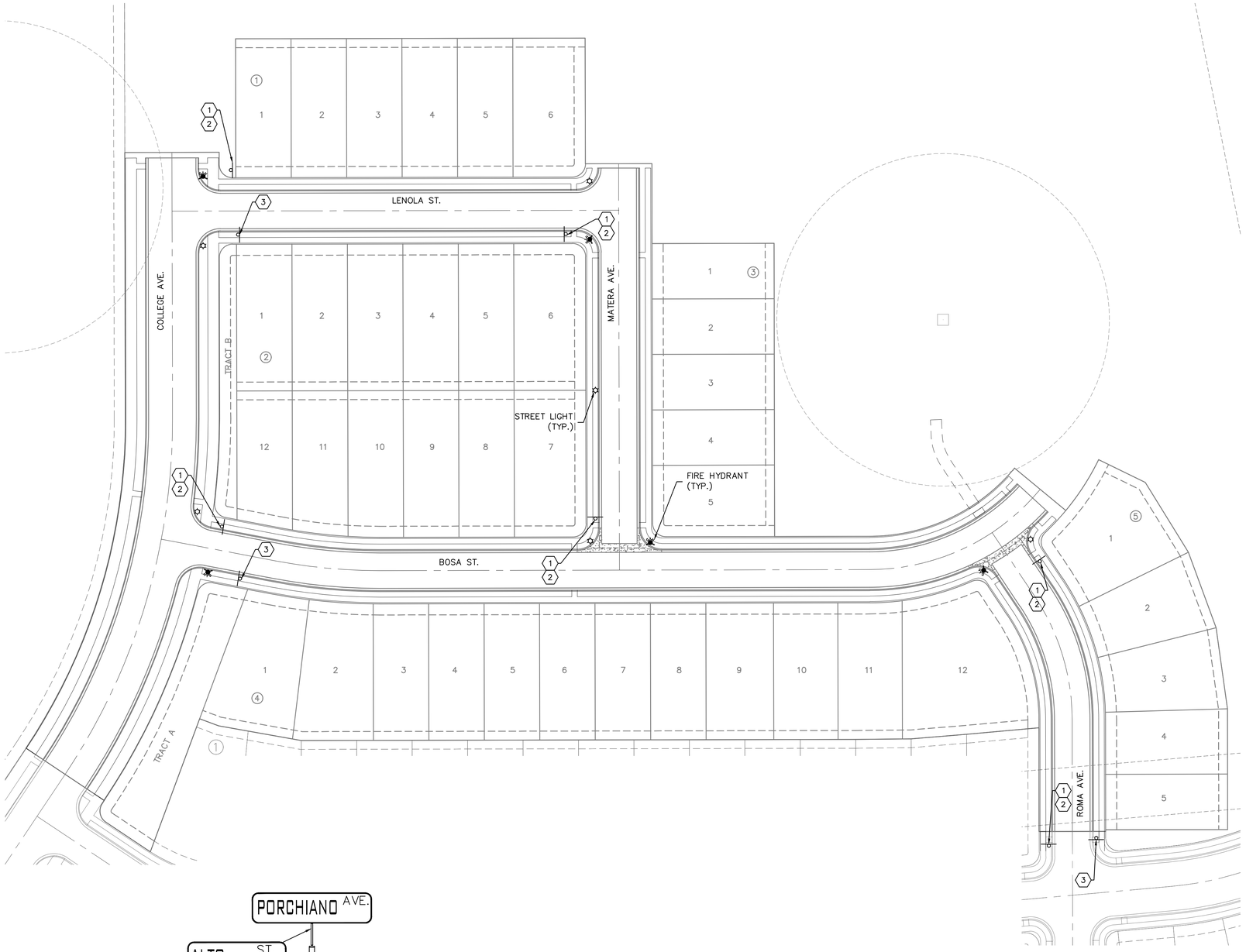
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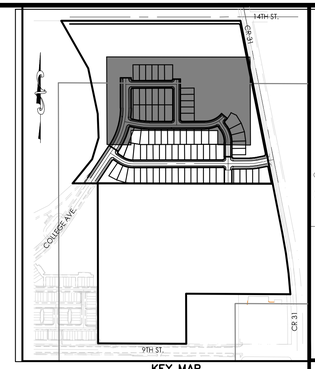
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 33

CAD FILE: 21002209-F6-WATER DETAILS.DWG

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KEY MAP
N.T.S.

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STREET SIGN (TYP.)
NTS
2



R2-1
24"x30"
NTS
3



D3
VARIABLE SIZE
NTS

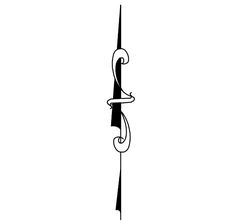
CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS



R1-1
30"x30"
NTS
1

NOTES:

1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.
3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
   (A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
   (B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.
4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.
5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.



50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 6
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
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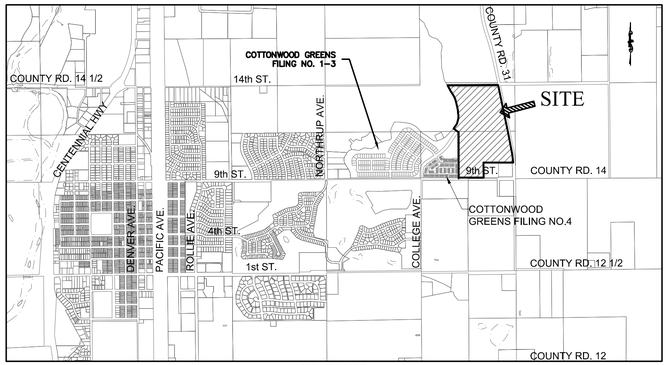
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COTTONWOOD GREENS FILING NO. 7

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 7 CONSTRUCTION PLANS



VICINITY MAP
SCALE: 1"=2,000'

LEGAL DESCRIPTION:

COTTONWOOD GREENS PUD FILING NO. 7

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO-FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2-1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 88°37'23" EAST 1220.47 FEET TO THE NORTH LINE OF SAID THERMO-FARMS, ALSO BEING THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID NORTH LINE NORTH 89°58'06" EAST 965.96 FEET TO THE NORTHEAST CORNER OF SAID THERMO-FARMS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY 31;

THENCE ALONG THE EASTERLY LINE OF SAID THERMO-FARMS AND ALONG SAID WESTERLY RIGHT-OF-WAY LINE SOUTH 11°09'18" EAST 1075.84 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE AND ALONG SAID NORTHERLY LINE THE FOLLOWING SIX (6) COURSES:

1. SOUTH 78°50'42" WEST 10.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AND A CHORD WHICH BEARS SOUTH 33°50'42" WEST;
2. 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. SOUTH 78°50'42" WEST 64.55 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 257.50 FEET;
4. 49.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 11°02'09";
5. SOUTH 89°52'51" WEST 130.54 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 6 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTHERLY LINE AND ALONG THE EASTERLY AND NORTHERLY LINES OF SAID COTTONWOOD GREENS PUD FILING NO. 6 THE FOLLOWING TWENTY-TWO (22) COURSES:

1. NORTH 00°07'09" WEST 16.53 FEET;
2. NORTH 89°52'51" EAST 110.00 FEET;
3. NORTH 00°07'09" WEST 108.90 FEET;
4. NORTH 07°57'50" WEST 73.78 FEET;
5. NORTH 20°06'58" WEST 72.65 FEET;
6. NORTH 31°39'11" WEST 73.97 FEET;
7. NORTH 64°00'29" WEST 46.81 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 64°00'29" WEST;
8. 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";
9. NORTH 50°22'42" WEST 60.00 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 170.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;
10. 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";
11. SOUTH 89°52'51" WEST 85.73 FEET;
12. NORTH 00°07'09" WEST 264.59 FEET;
13. SOUTH 89°49'35" WEST 110.00 FEET;
14. NORTH 00°07'09" WEST 72.18 FEET;
15. SOUTH 89°52'51" WEST 60.00 FEET;
16. NORTH 00°07'09" WEST 113.31 FEET;
17. SOUTH 89°52'51" WEST 315.21 FEET;
18. SOUTH 00°07'09" EAST 125.31 FEET;
19. SOUTH 89°52'51" WEST 3.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
20. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
21. NORTH 00°07'09" WEST 11.00 FEET;
22. SOUTH 89°52'51" WEST 85.00 FEET TO THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 6 AND ALONG SAID EASTERLY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 00°07'09" WEST 415.70 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;
2. 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45";
3. NORTH 00°01'47" WEST 25.00 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 637,767 SQUARE FEET, OR 14.64 ACRES, MORE OR LESS.

RESIDENTIAL DESIGN STANDARDS VARIANCES

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

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CITY ENGINEER'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ___ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

OWNER:
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACAURTHER BLVD.,
SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

CIVIL ENGINEER:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

SURVEYOR:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

CITY OF FORT LUPTON:
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

XCEL ENERGY(GAS):
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

UNITED POWER (ELEC):
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

CENTURYLINK (FIBER OPTIC):
5324 WADSWORTH BYP.,
SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ _____
DANIEL J. RODRIGUEZ, P.E. DATE
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-FF-COVER SHEET.DWG

DO NOT COPY THIS DRAWING. THIS DRAWING IS THE PROPERTY OF ATWELL, LLC. IT IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH IT HAS BEEN PREPARED, AND IS NOT TO BE LOANED, COPIED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF ATWELL, LLC.

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WITH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.
3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.
4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.
6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.
7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.
9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.
10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.
11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.
13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.
14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.
18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

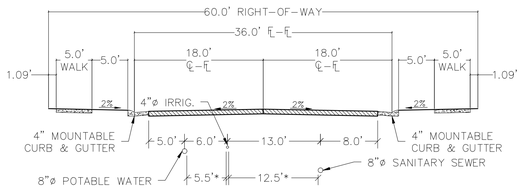
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

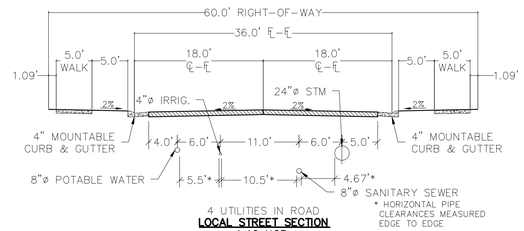
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



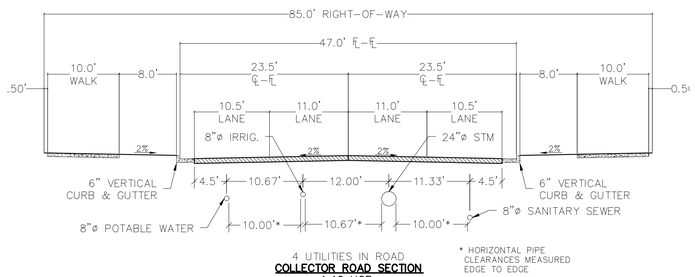
3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
COLLECTOR ROAD SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- SS EXISTING SANITARY
- S PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- W W EXISTING WATER
- W PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- IRR IRR EXISTING IRRIGATION LINE
- GAS EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- OHE EXISTING OVERHEAD ELECTRICAL
- E E E E EXISTING ELECTRICAL
- CATV EXISTING CABLE TV
- FO FO FO EXISTING FIBER OPTIC CABLE
- X X EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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SUITE 250
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CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

DATE 2/8/2022

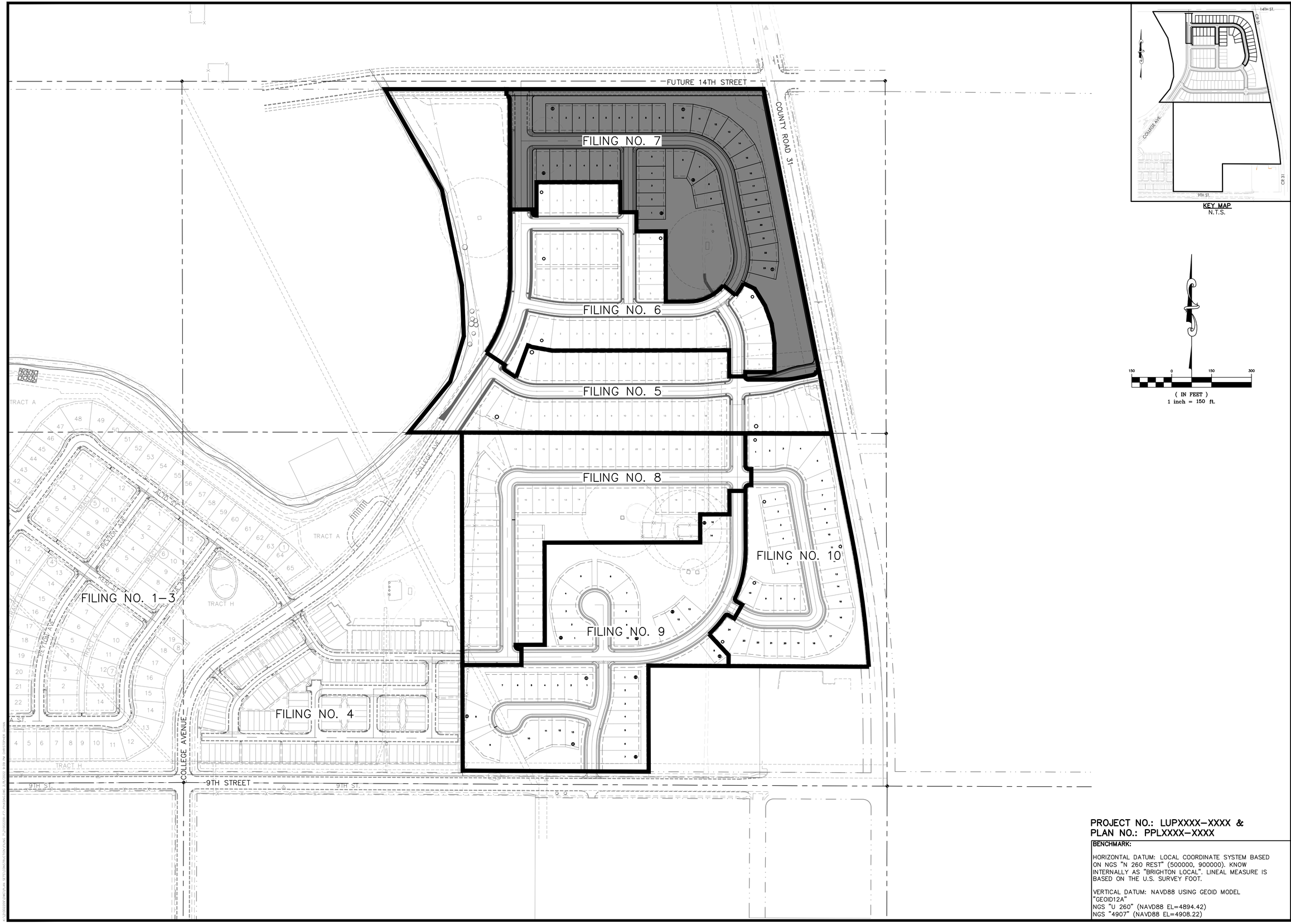
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P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209–F7–COVER SHEETDWG

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KEY MAP
N.T.S.

(IN FEET)
1 inch = 150 ft.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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LAKEWOOD, CO 80228
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4040 MacARTHUR BLVD.
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NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

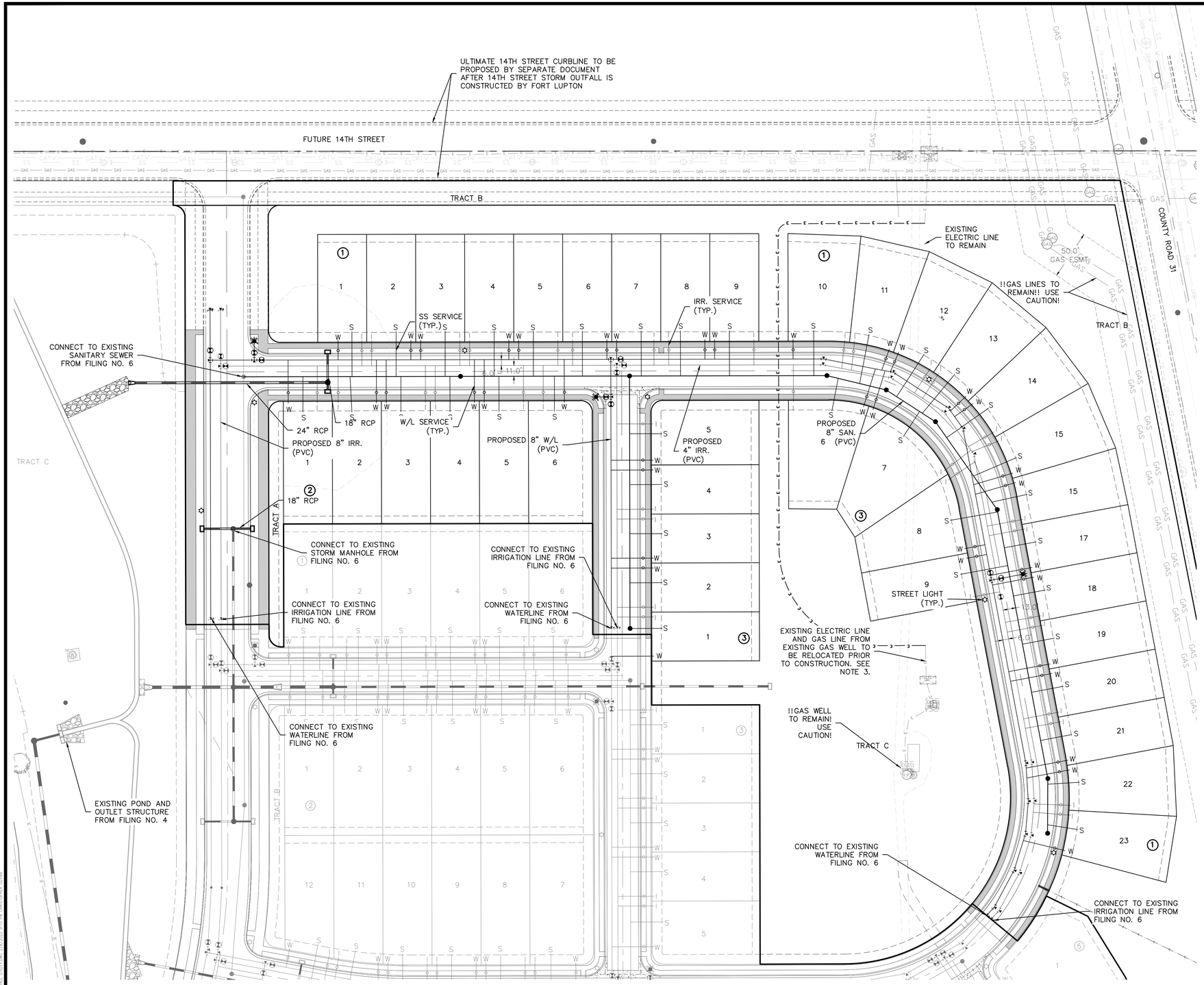
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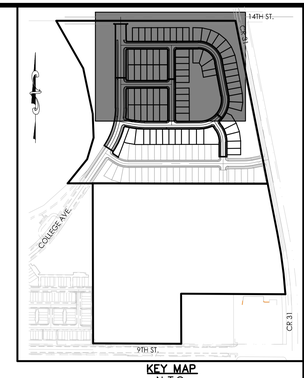
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DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 3

CAD FILE: 21002209-F7-PHASING.DWG





KEY MAP
N.T.S.

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OVERALL UTILITY NOTES:

1. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 2 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
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3. EXISTING ELECTRIC LINE AND GAS LINE FROM EXISTING GAS WELL TO BE RELOCATED PRIOR TO CONSTRUCTION. CONFIRM RELOCATION IS COMPLETE PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF LINES HAVE NOT BEEN RELOCATED. SEE PLAN VIEW FOR LOCATION.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS

OVERALL UTILITY

DATE 2/8/2022

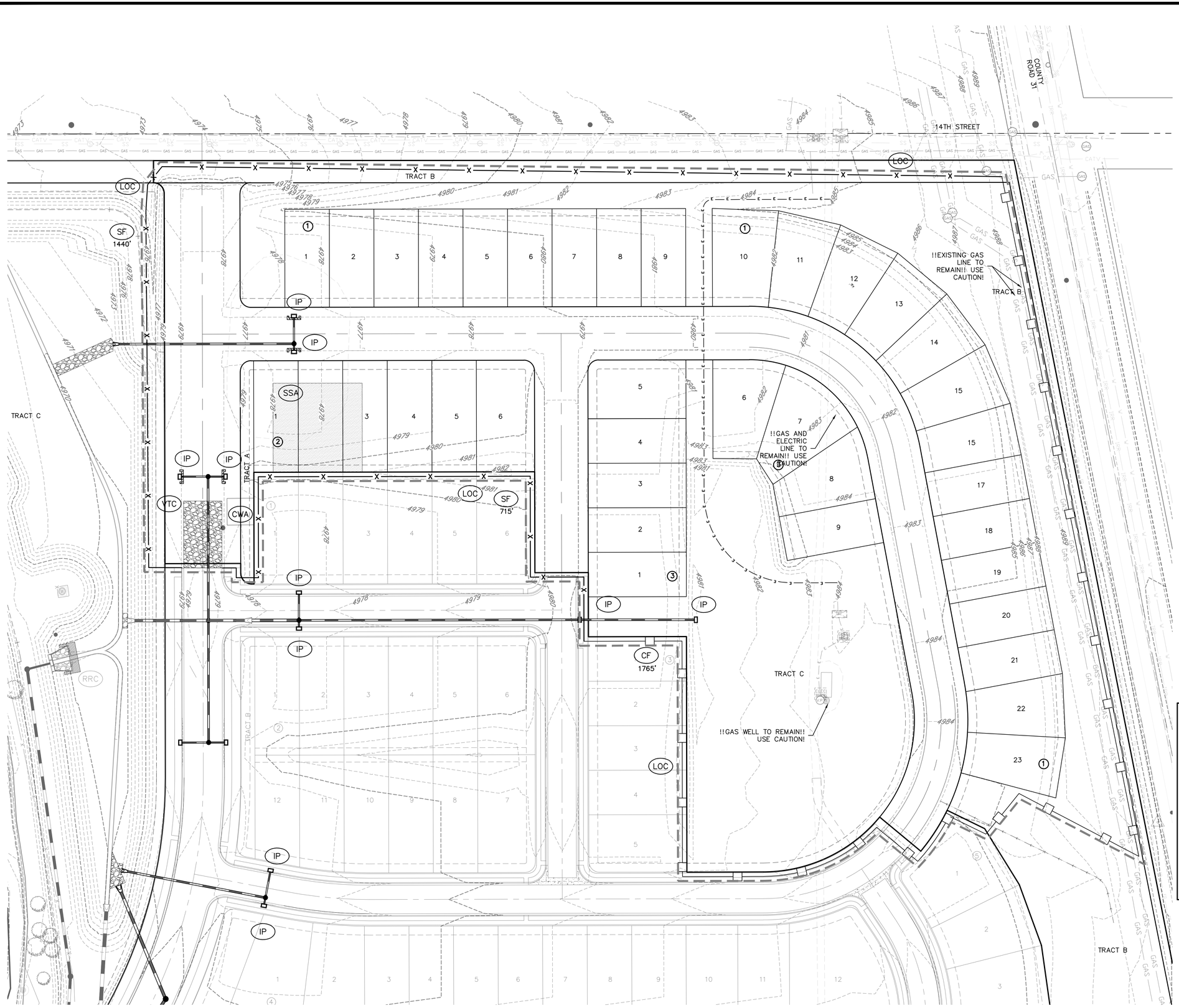
REVISIONS

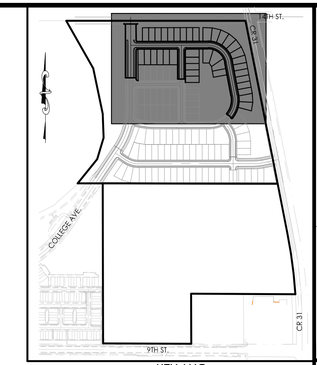
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-FP-OVERALL UTILITY.DWG

LAST DESCRIPTION MODIFICATION: EXPORTED FOR FINAL SUBMITTAL BY TIM DAMERON, 2:01PM





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

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GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC INTERIM

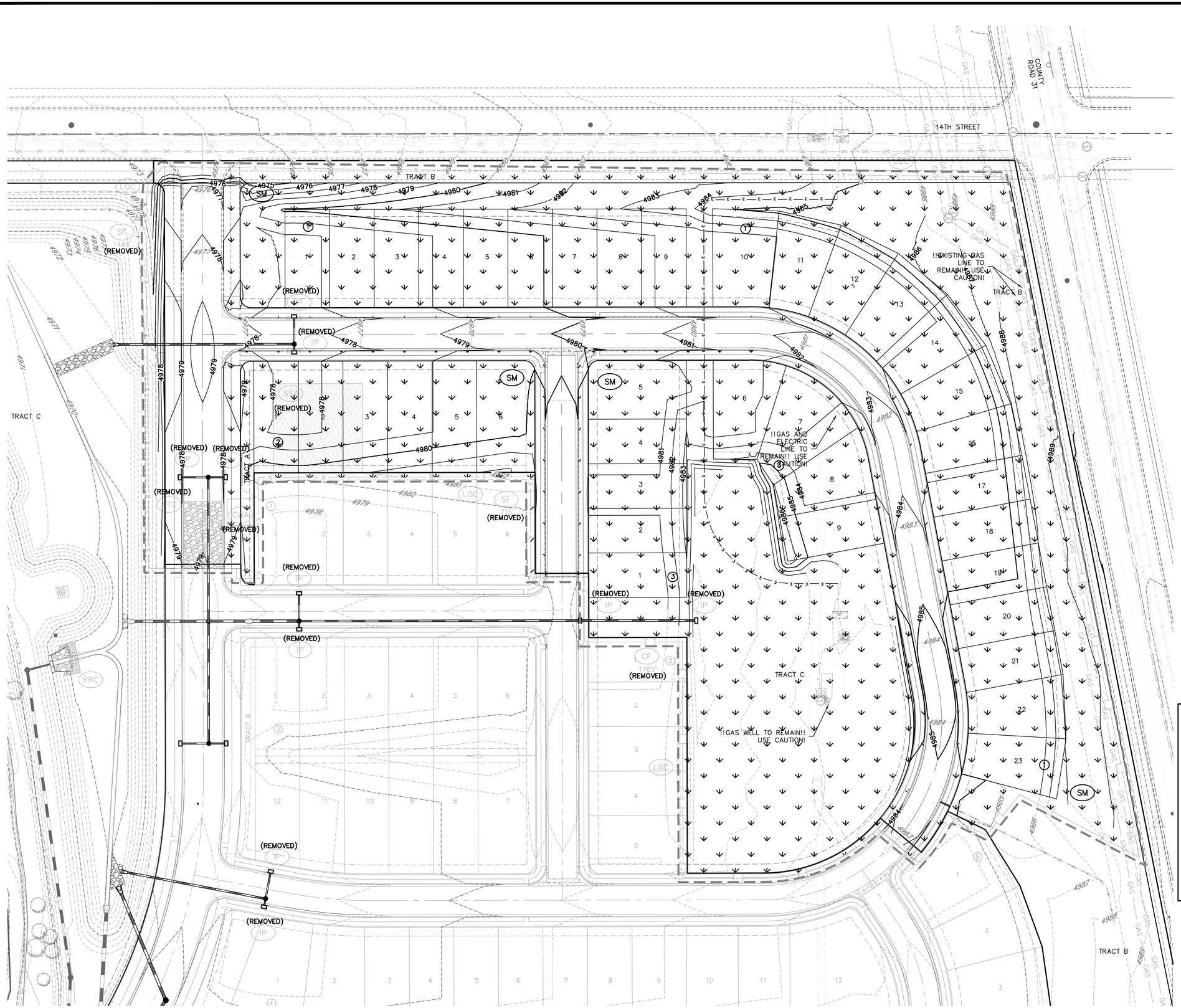
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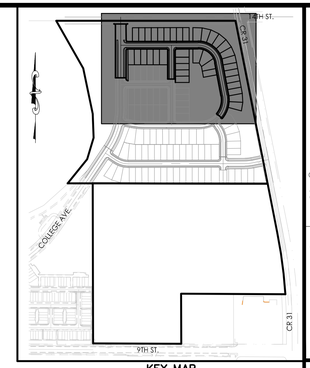
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P.M. DJR
JOB 21002209
SHEET NO. 5

CAD FILE: 21002209-GESC INTERIM - FP.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 6

CAD FILE: 21002209-GESC FINAL - P7.DWG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

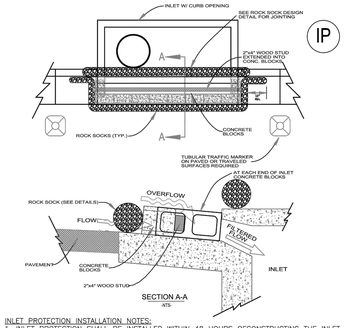
DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

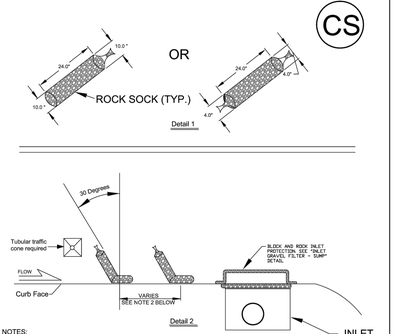
TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14



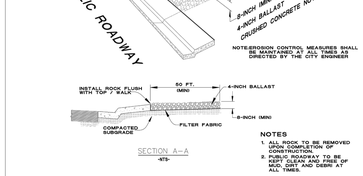
INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14



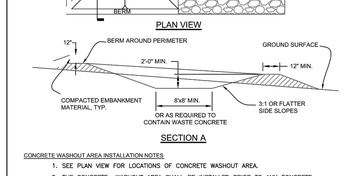
NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

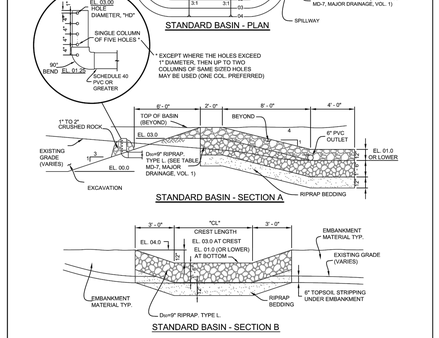
DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14

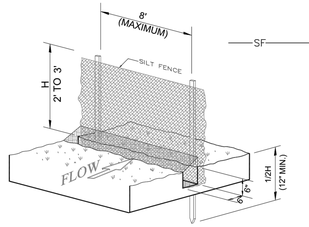


CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TROUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

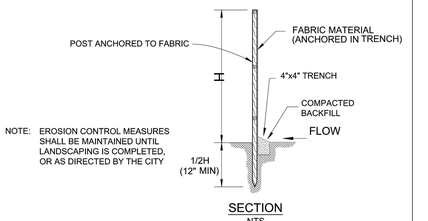
DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14


SB
INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF TEMPORARY SLOPE DRAIN (SEE TSD DETAILS)
RELATIVE ELEVATION, TYP. 4"TO 6" COBBLE FINISHED ROCK HORSE RIPRAP
6" PVC
45° BEND
FLOW
5.0 x 5.0 x 2.0 D RIPRAP PAD Do = 9", TYPE L, (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 OR AS CALLED OUT ON THE PLANS)
W BOTTOM WIDTH
3:1
3:1
3:1



SILT FENCE INSTALLATION

-NTS-



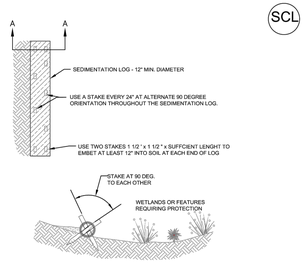
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

DESIGN STANDARDS	STANDARD DRAWING
SILT FENCE	EC 15
	DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

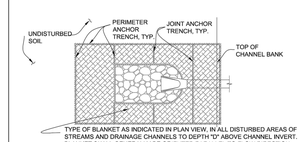
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

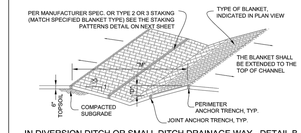
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT CONTROL LOGS	EC 16
	DATE: 8/15/14

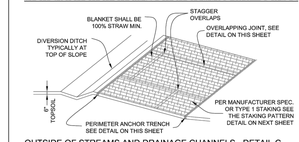
ECB



AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

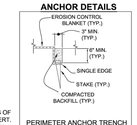


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B

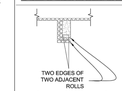


OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

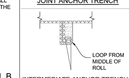
ANCHOR DETAILS



PERIMETER ANCHOR TRENCH



JOINT ANCHOR TRENCH



INTERMEDIATE ANCHOR TRENCH



OVERLAPPING JOINT

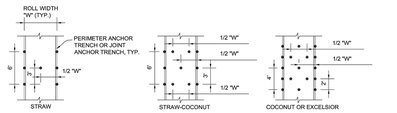


WOOD STAKE DETAIL

MINIMUM ACCEPTABLE USE 2x4 MATERIAL FOR STAKES

DESIGN STANDARDS	STANDARD DRAWING
EROSION BLANKET DETAILS	EC 17
	DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*		100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%		-	DOUBLE/NATURAL
EXCELSIOR			100%	DOUBLE/NATURAL

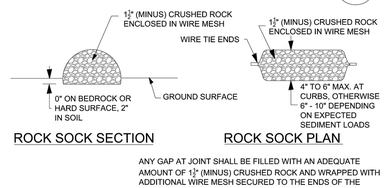
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

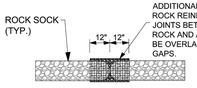
DESIGN STANDARDS	STANDARD DRAWING
EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
	DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
¾"	0 - 15
⅜"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

DESIGN STANDARDS	STANDARD DRAWING
ROCK SOCK DETAIL	EC 19
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811
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NOTICE:
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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

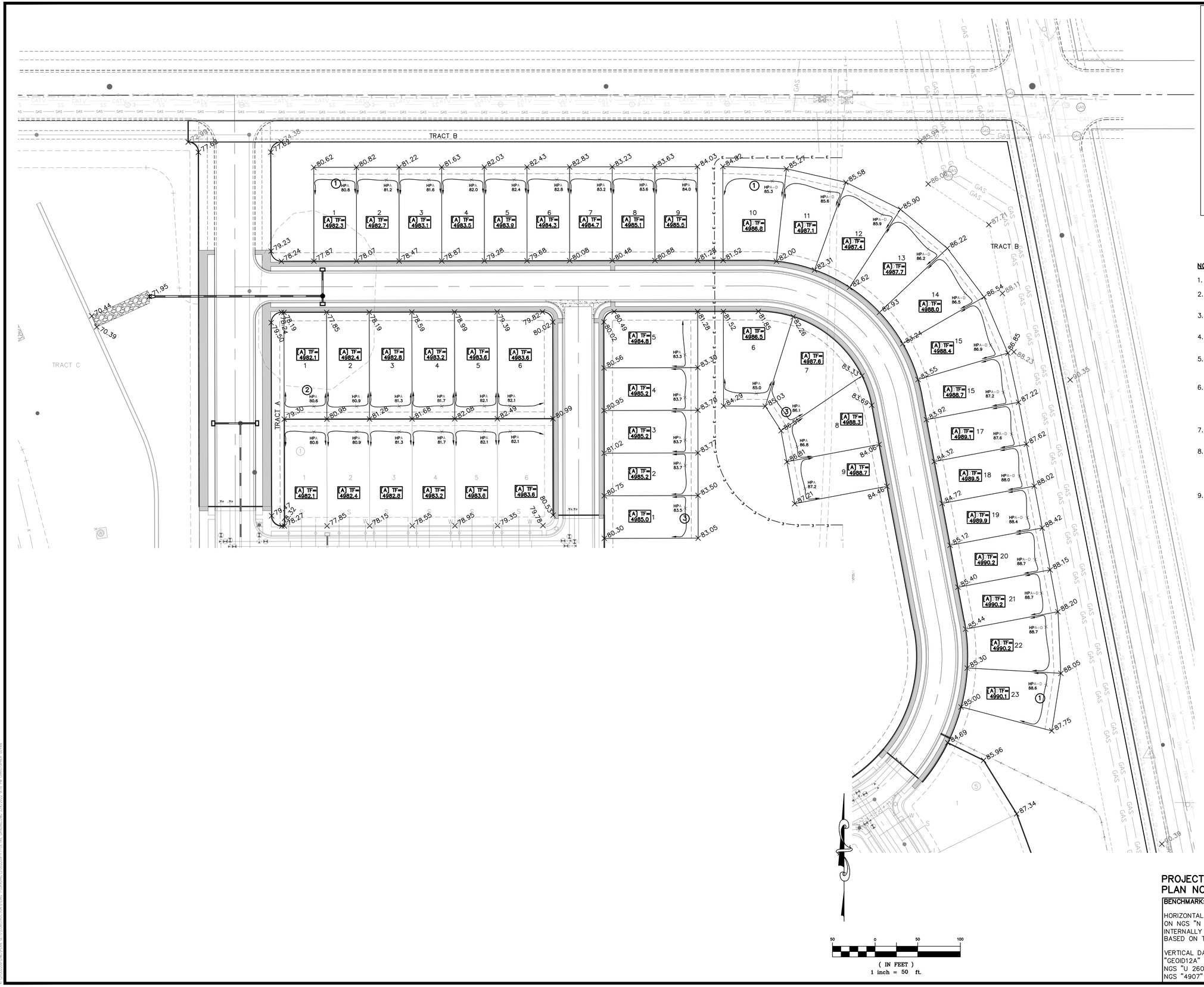
REVISIONS

PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 7

CAD FILE: 21002209-GESC DETAILS.DWG

C:\USERS\DOCUMENTS\ATWELL\COTTONWOOD DEVELOPMENT PARTNERS, LLC\21002209 - 7 FILING NO. 7\DRAWINGS\GESC\21002209-GESC DETAILS.DWG Mon, Feb 07, 2022 - 3:14:14 pm - EPalm



KEY MAP
N.T.S.

NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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LAKEWOOD, CO 80228
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4040 MacARTHUR BLVD.
SUITE 250
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CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

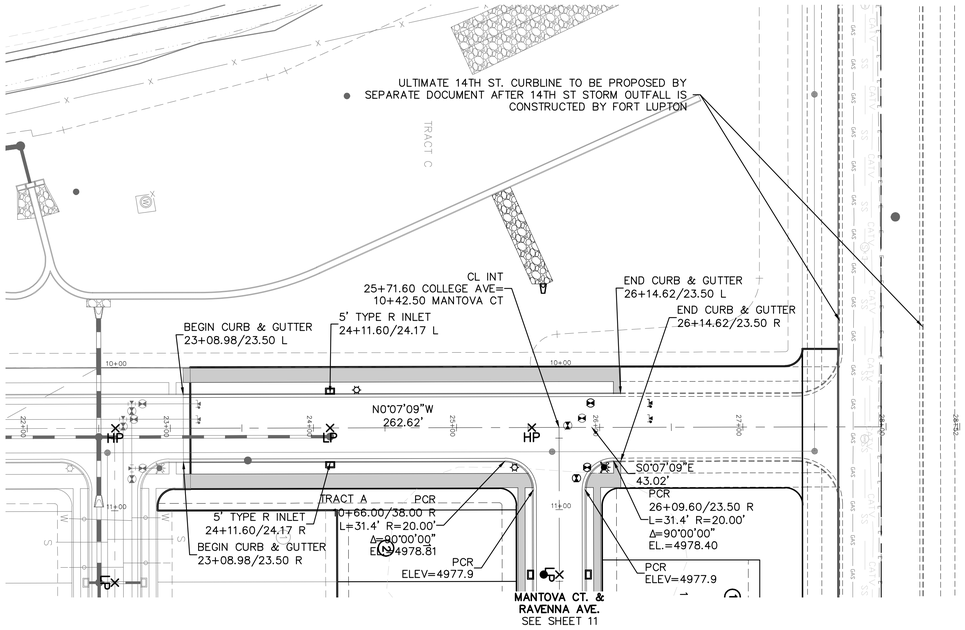
DATE 2/8/2022

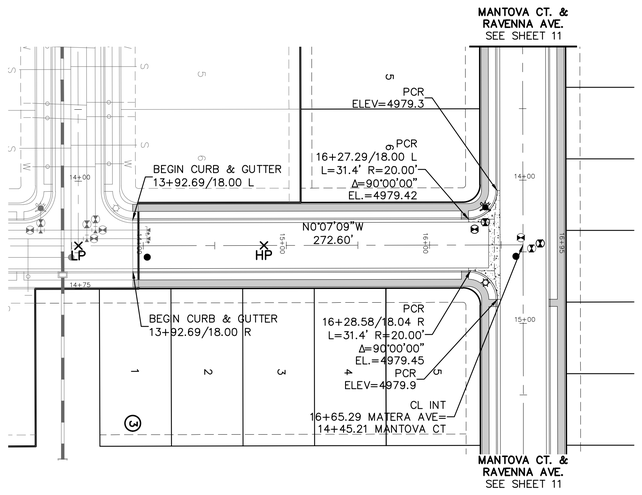
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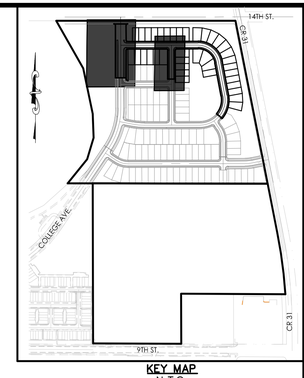
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 26

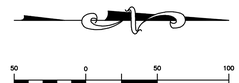
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KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

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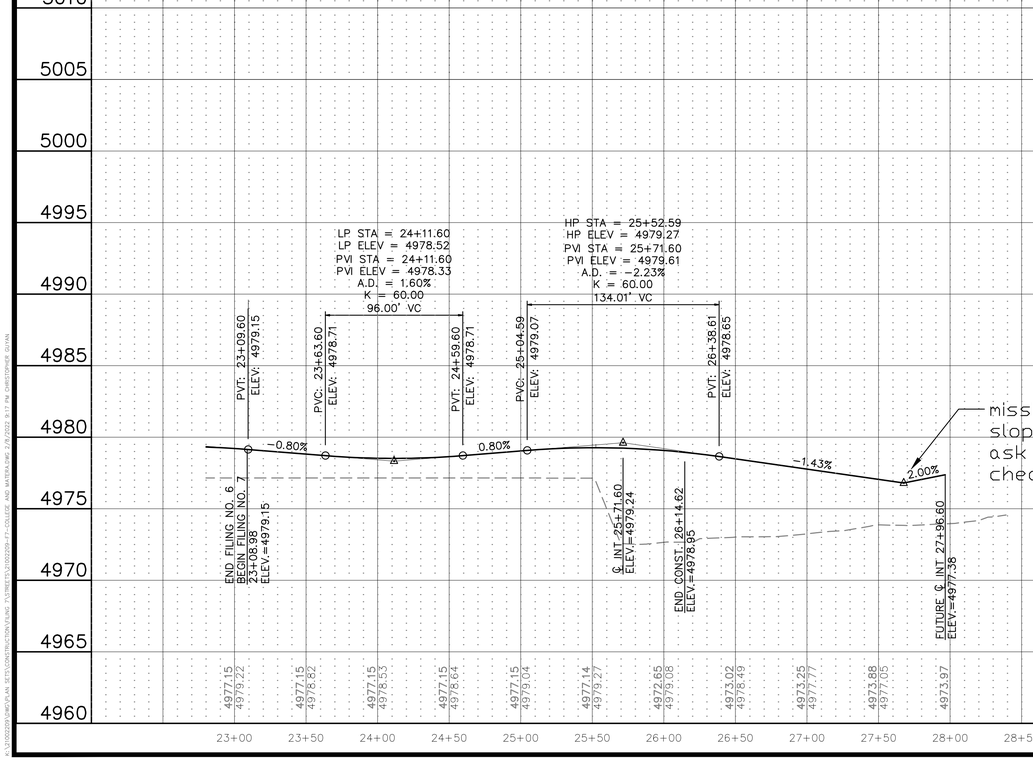
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PLAN NO.: PPL2021-XXXX

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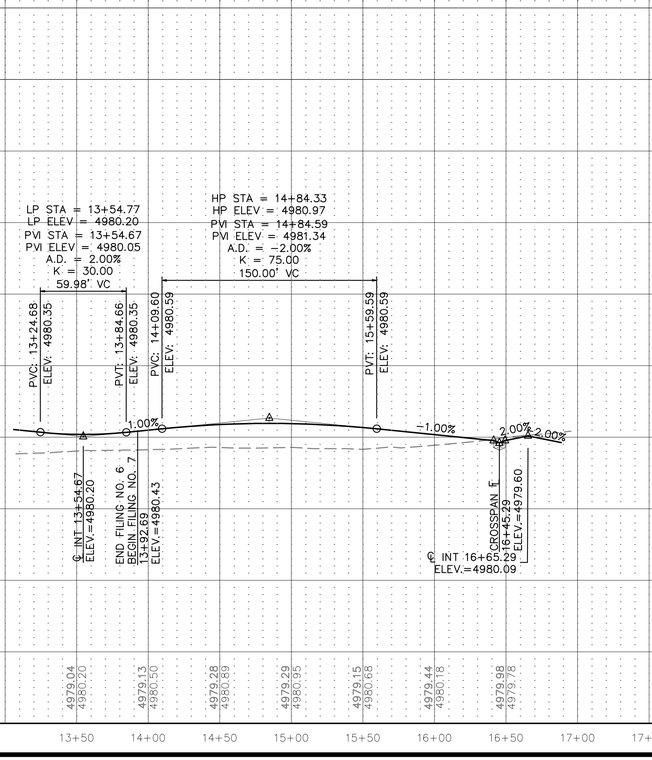
HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

COLLEGE AVE.



MATERA AVE.



DEVELOPER
COTTONWOOD DEVELOPMENT PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
COLLEGE AVE. & MATERA AVE.

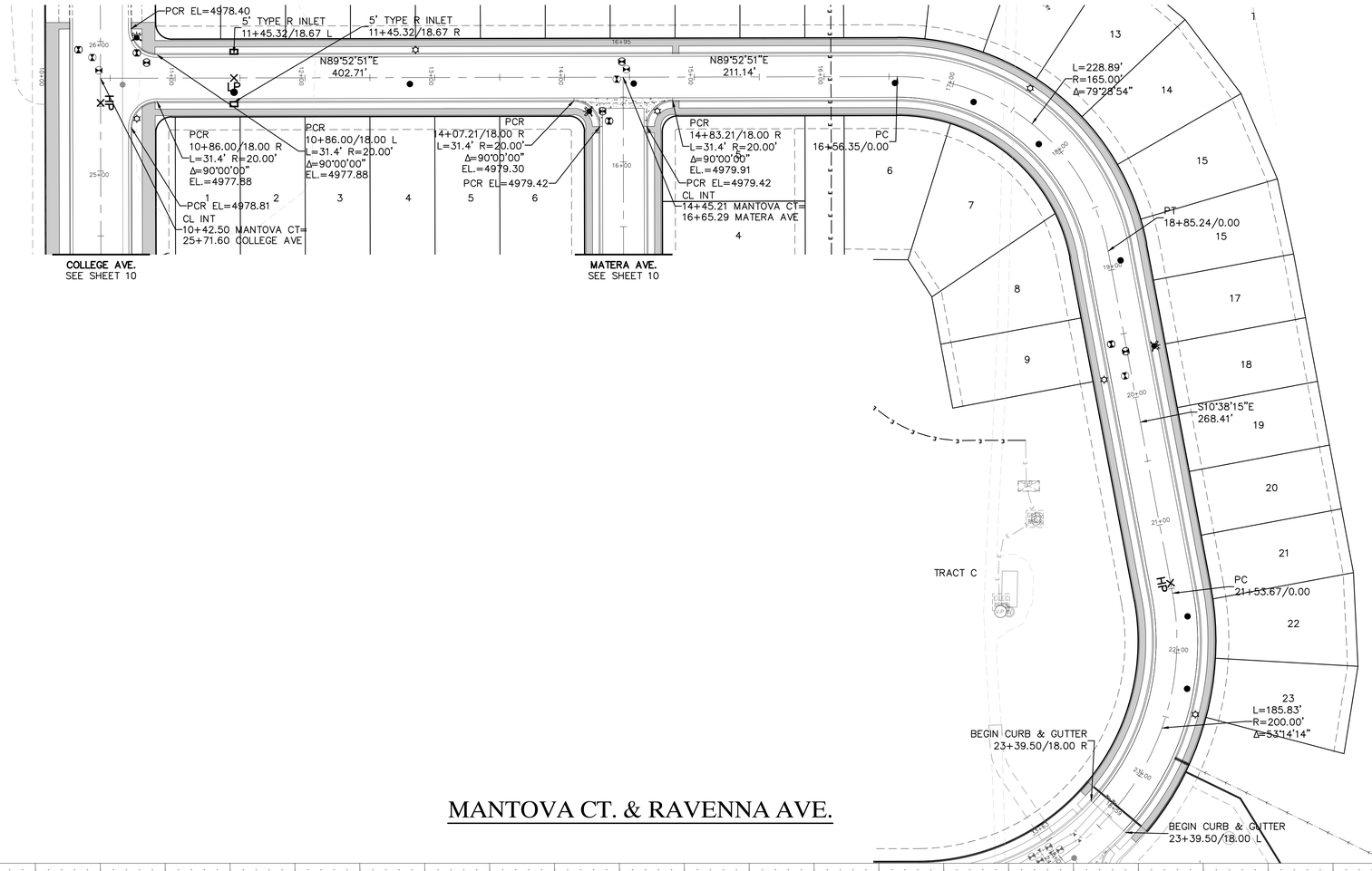
DATE 2/8/2022

REVISIONS

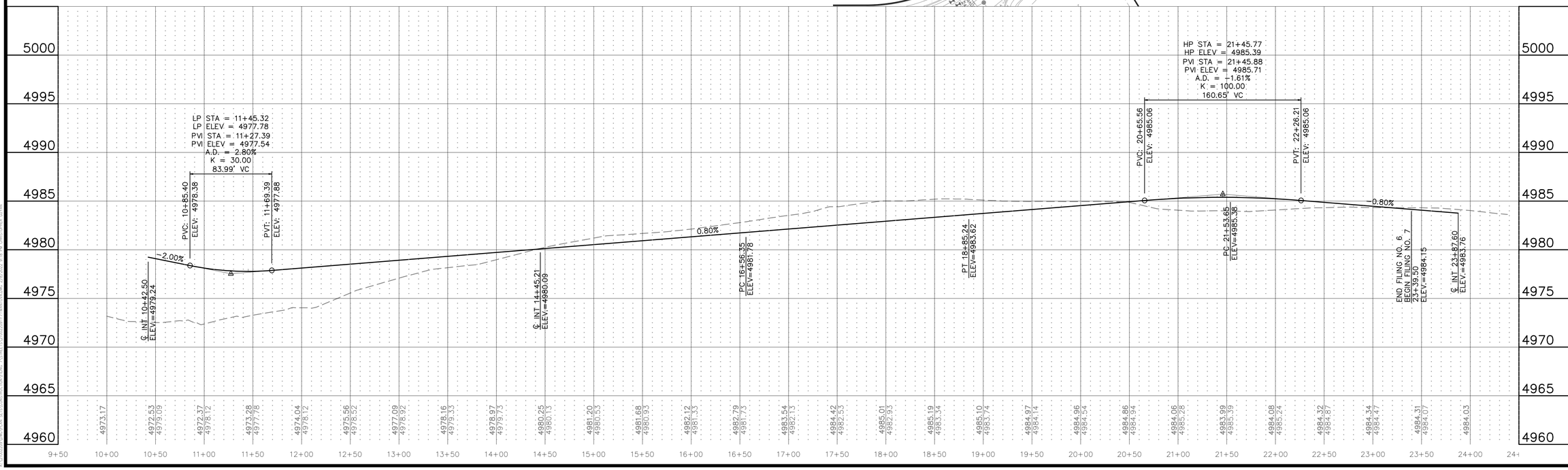
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

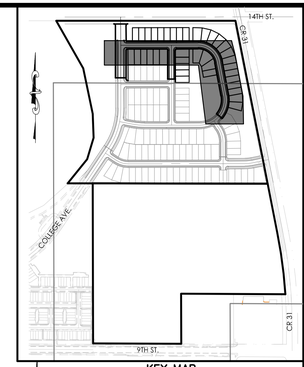
DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 10

CAD FILE: 21002209-FP-COLLEGE AND MATERA.DWG



MANTOVA CT. & RAVENNA AVE.





KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
MANTOVA CT. & RAVENNA AVE.

DATE 2/8/2022

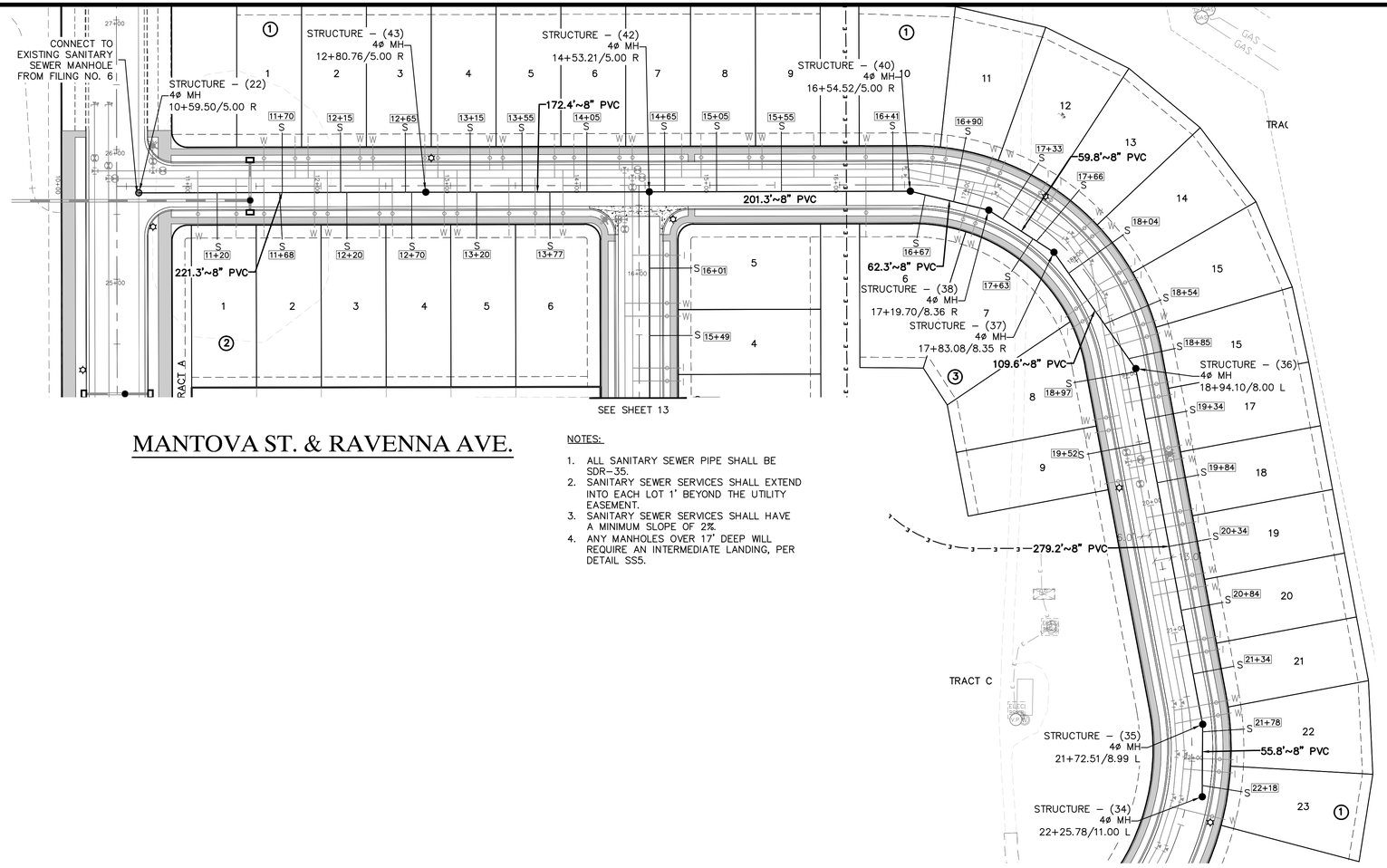
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 11

CAD FILE: 21002209-FP-MANTOVA.DWG

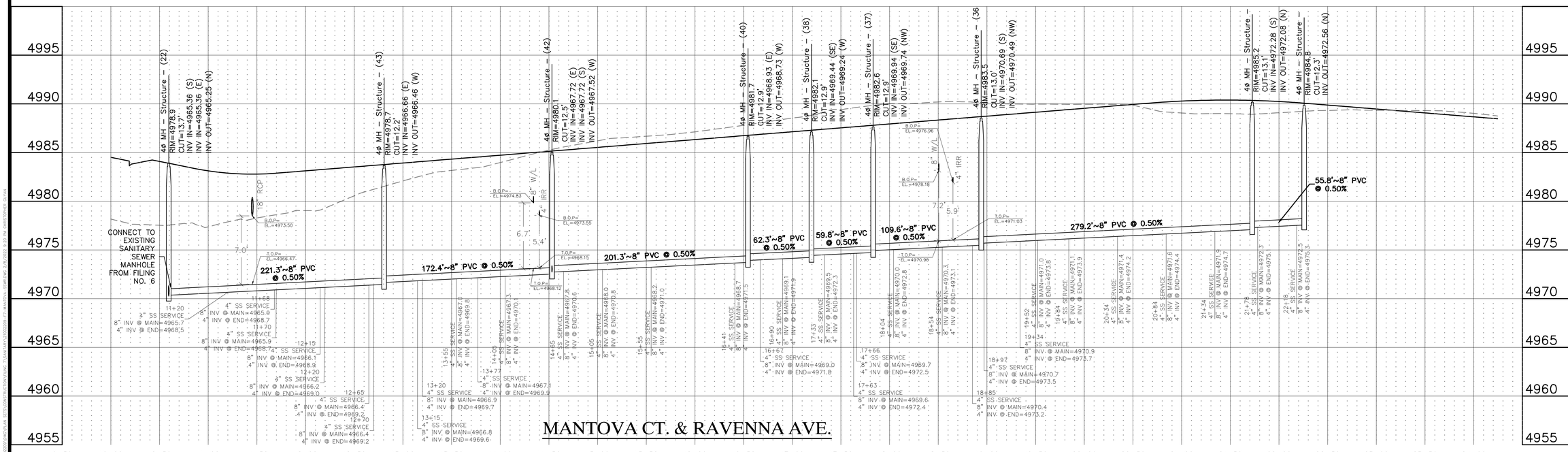
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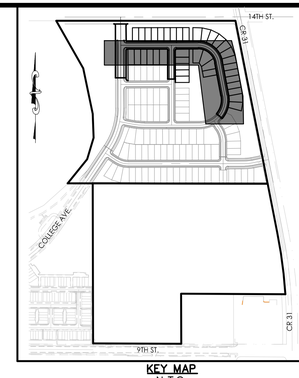
MANTOVA ST. & RAVENNA AVE.

NOTES:

1. ALL SANITARY SEWER PIPE SHALL BE SDR–35.
2. SANITARY SEWER SERVICES SHALL EXTEND INTO EACH LOT 1' BEYOND THE UTILITY EASEMENT.
3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ANY MANHOLES OVER 17' DEEP WILL REQUIRE AN INTERMEDIATE LANDING, PER DETAIL SS5.



MANTOVA CT. & RAVENNA AVE.



KEY MAP
N.T.S.

(IN FEET)
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1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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NGS "U 260" (NAVD88 EL=4894.42)
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COTTONWOOD GREENS, FILING NO. 7
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
MANTOVA ST. & RAVENNA AVE.

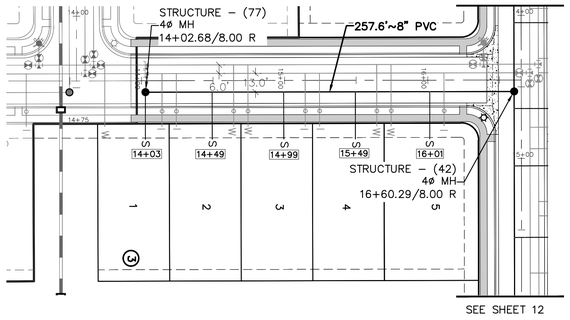
DATE 2/8/2022

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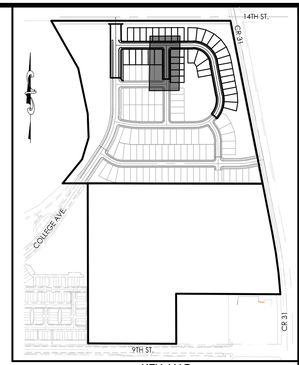
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 12

CAD FILE: 21002209-PT-MANTOVA-SSMR.DWG



MATERA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

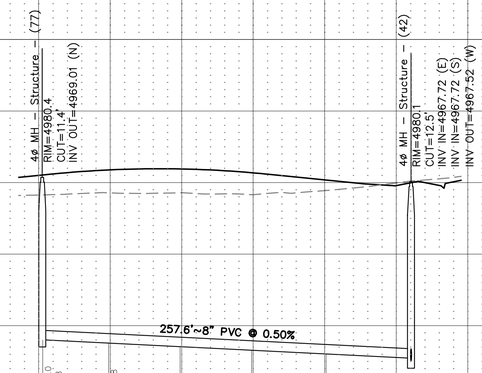
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)



MATERA AVE.

14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50

5000 4995 4990 4985 4980 4975 4970 4965 4960 4955 4950 4945

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
MATERA AVE.

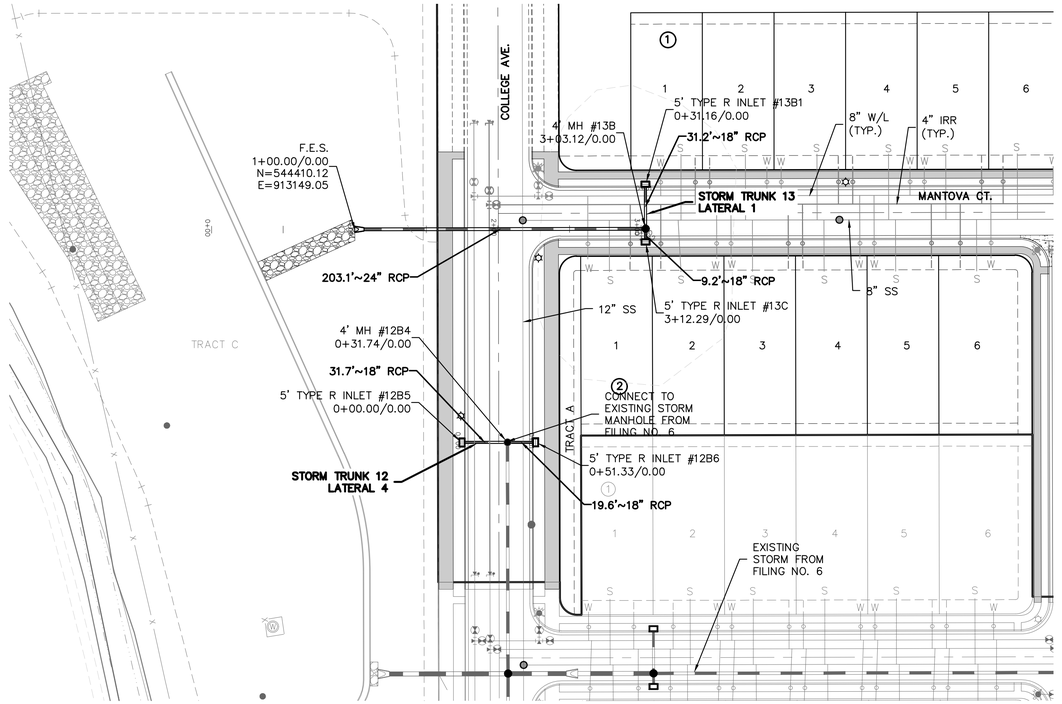
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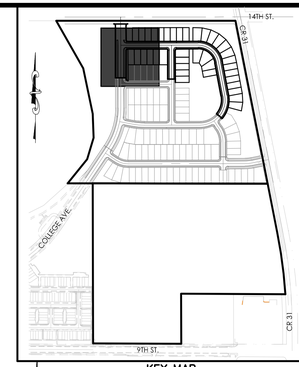
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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JOB 20002948
SHEET NO. 13

CAD FILE: 21002209-FP-COLLEGE AND MATERA-SSWR.DWG
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LAST PLOTTED BY: EPOLOVINA ON: 2/8/2022 2:58:00 PM





KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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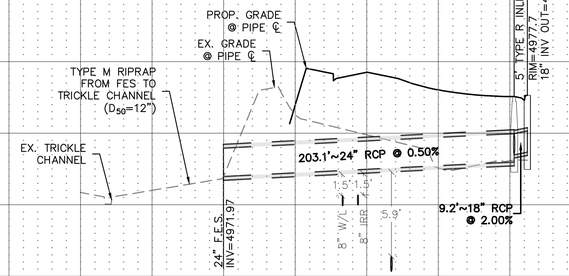
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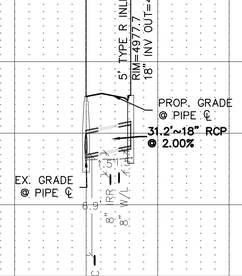
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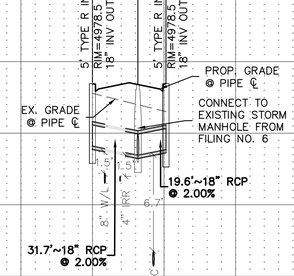
STORM TRUNK 13



STORM TRUNK 13 LATERAL 1



STORM TRUNK 12 LATERAL 4



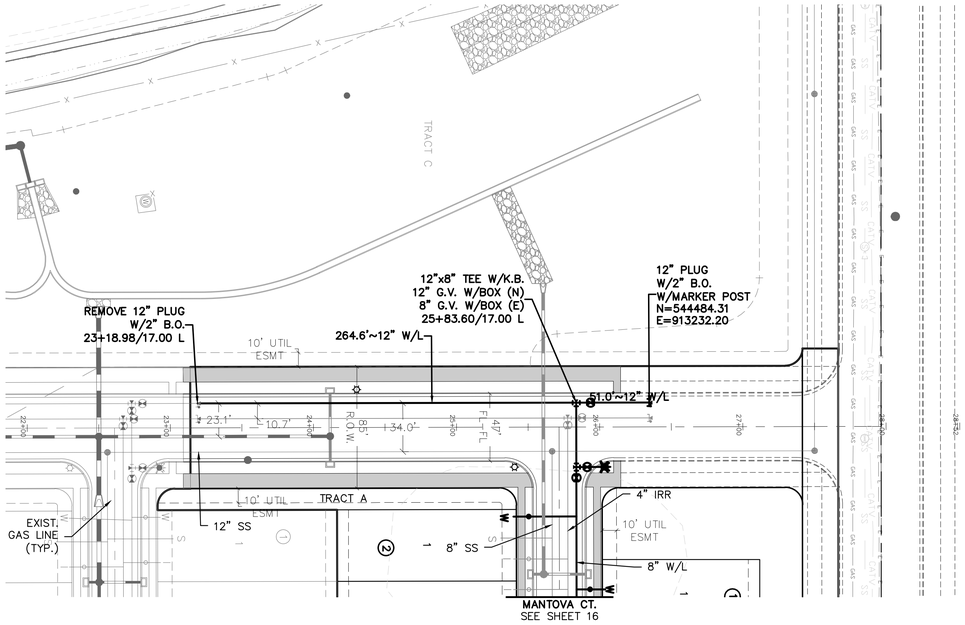
CLIENT	COTTONWOOD DEVELOPMENT PARTNERS, LLC
	COTTONWOOD GREENS FILING NO. 7 FORT LUPTON, COLORADO
	CONSTRUCTION PLANS STORM SEWER PLAN & PROFILE STORM 12 & 13
DATE	2/8/2022

REVISIONS

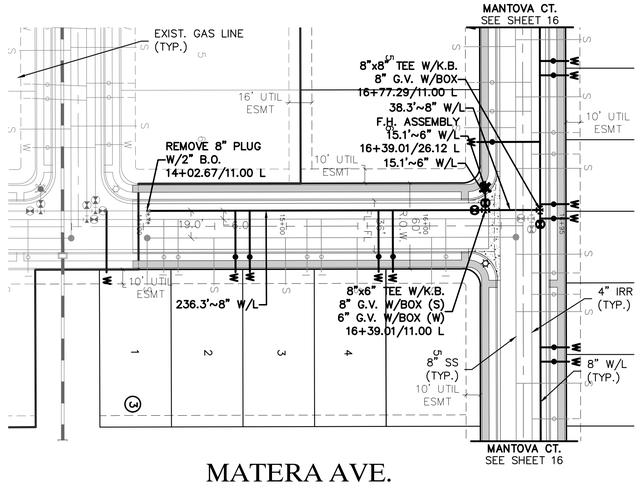
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP	CH. CJG
P.M. DJR	
JOB 20002948	
SHEET NO. 14	

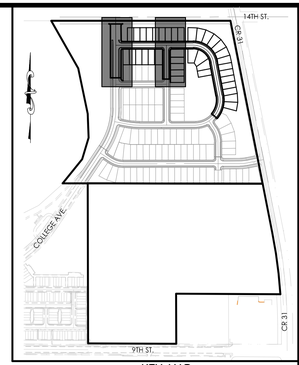
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COLLEGE AVE.



MATERA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
COLLEGE AVE. & MATERA AVE.

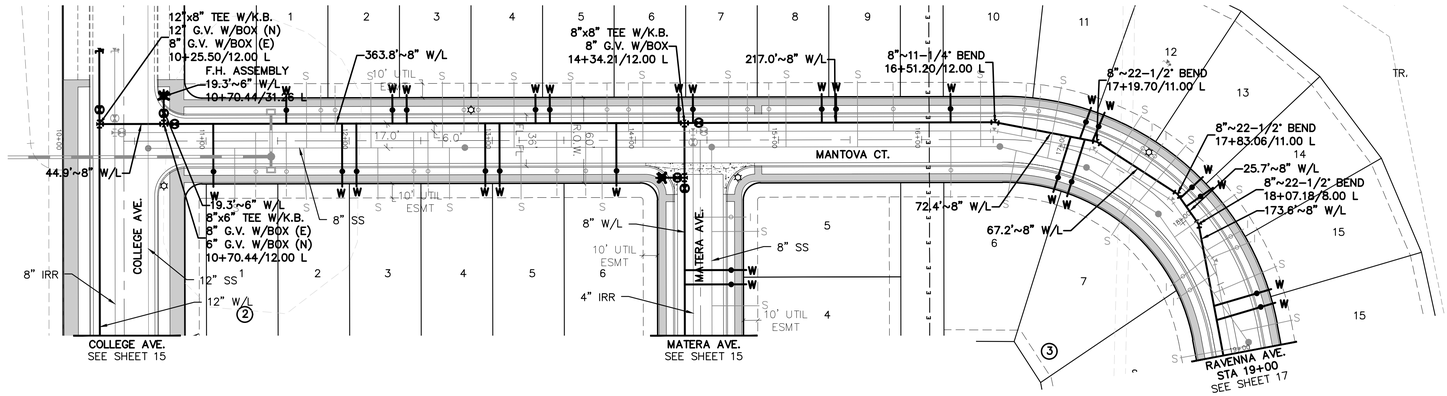
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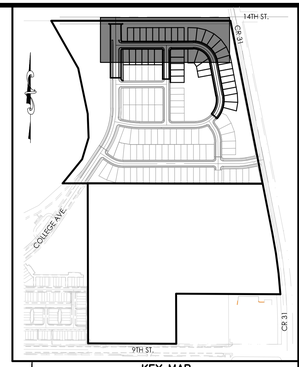
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 15

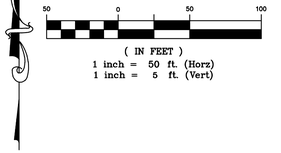
CAD FILE: 21002209-F7-WATER P&P-01.DWG



MANTOVA CT.



KEY MAP
N.T.S.



NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
MANTOVA CT.

DATE 2/8/2022

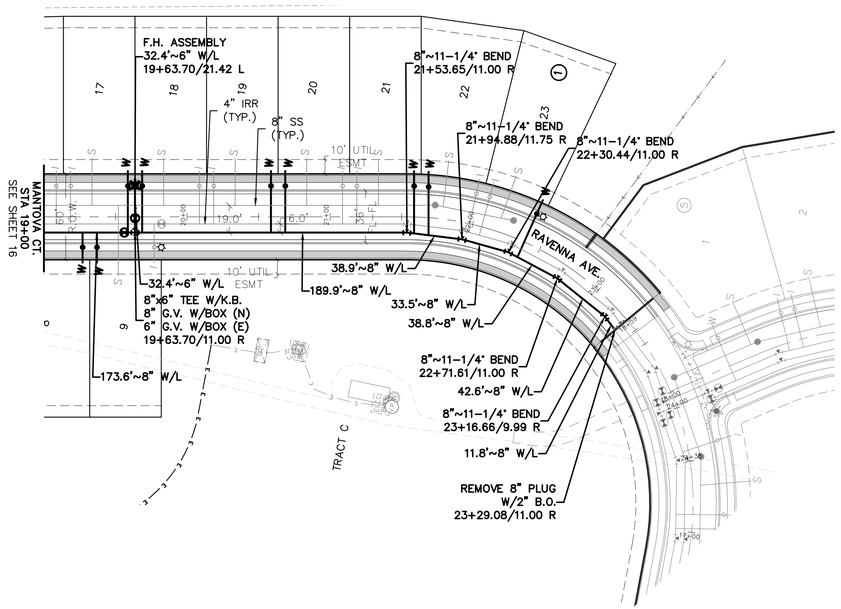
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PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

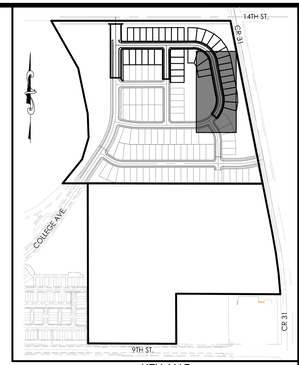
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P.M. DJR
JOB 21002209
SHEET NO. 16

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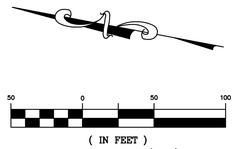
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RAVENNA AVE.



KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
RAVENNA AVE.

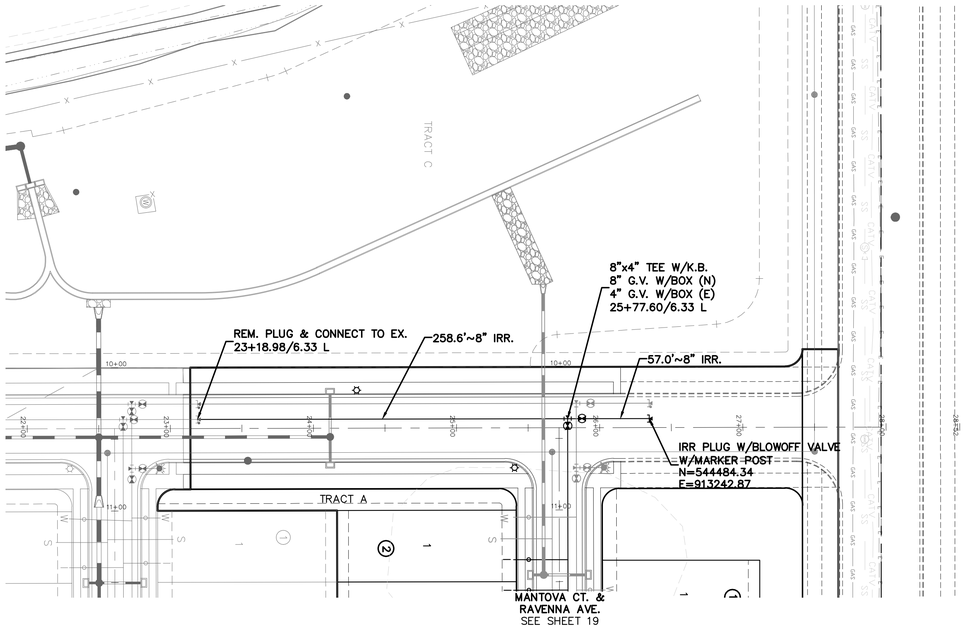
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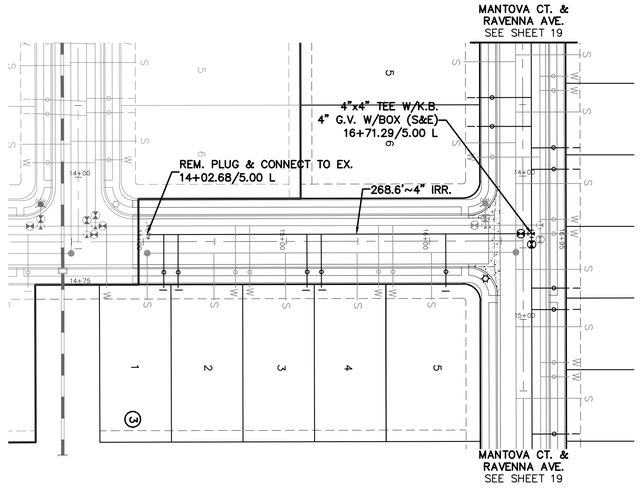
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 17

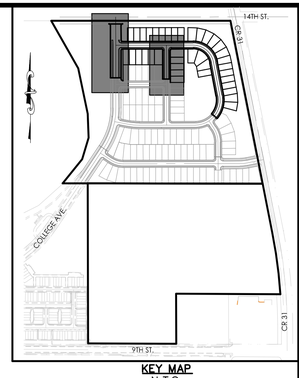
CAD FILE: 21002209-F7-WATER P&P-02.DWG



COLLEGE AVE.



MATERA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
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PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
COLLEGE AVE. & MATERA AVE.

DATE 2/8/2022

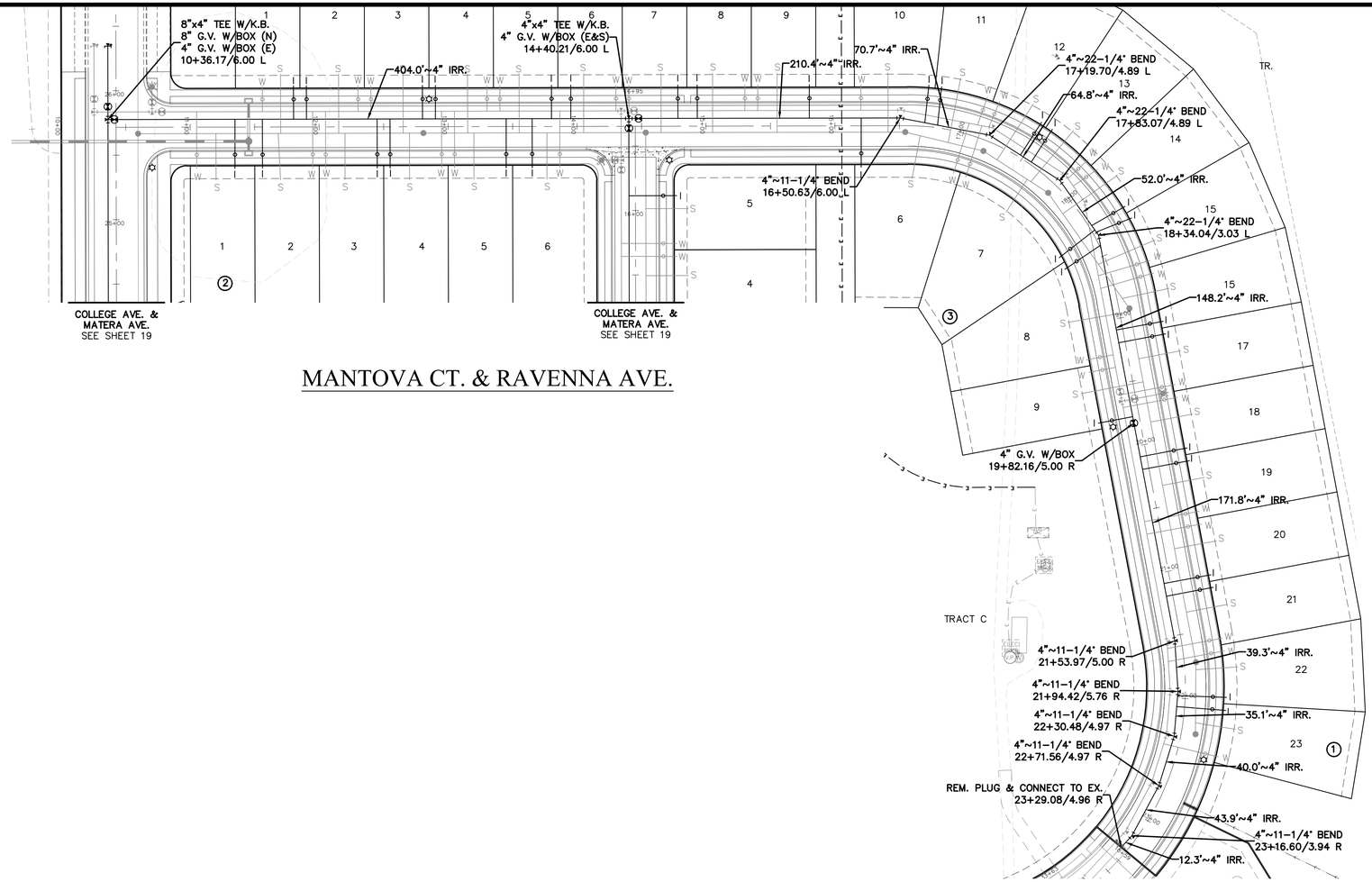
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PLANS UNDER REVIEW
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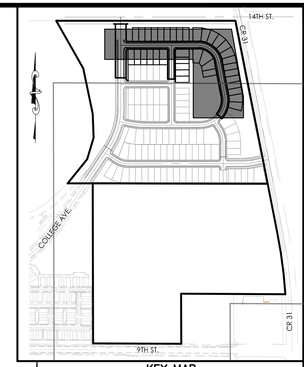
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P.M. DJR
JOB 21002209
SHEET NO. 18

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MANTOVA CT. & RAVENNA AVE.



KEY MAP
N.T.S.



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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
MANTOVA CT. & RAVENNA AVE.

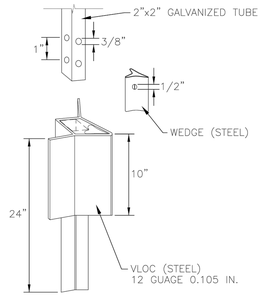
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REVISIONS

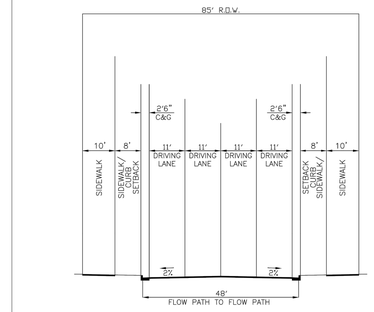
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JOB 21002209
SHEET NO. 19

CAD FILE: 21002209-FT-MANTOVA-IRR.DWG



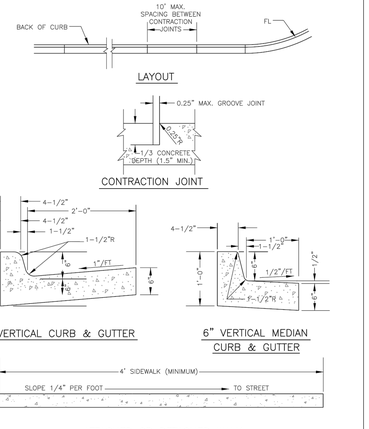
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14



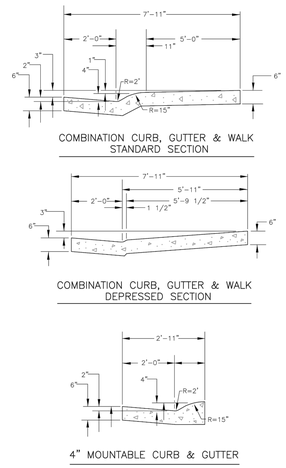
- PROVIDE WIDENING AT INTERSECTIONS FOR LEFT TURN LANES AND ACCEL/DECEL LANES RIGHT-OF-WAY WIDTH TO BE INCREASED TO 105' IN THESE AREAS.
- NO PARKING ALLOWED
- USED IN AREAS WHERE THERE IS LIMITED ACCESS AND PROJECTED TRAFFIC VOLUMES ARE GREATER THAN 10,000 VEHICLES PER DAY.

COLLECTOR PHASE III

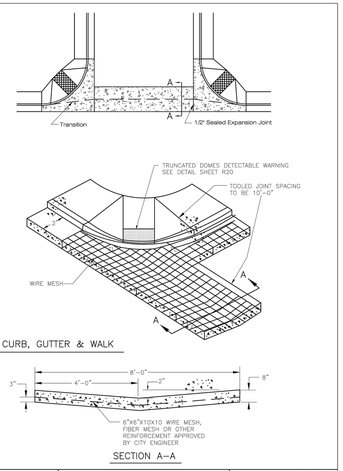
CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COLLECTOR - PHASE 3 TYPICAL SECTION	R2-3
		DATE: 11/21/19



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SIDEWALK RAMP WITH CROSS PAN	R11
		DATE: 3/15/17

MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
		DATE: 8/15/14

CITY OF Fort Lupton EST. 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
STREET DETAILS

DATE 2/8/2022

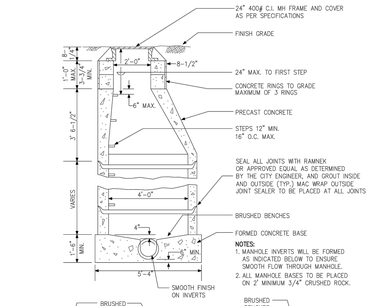
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

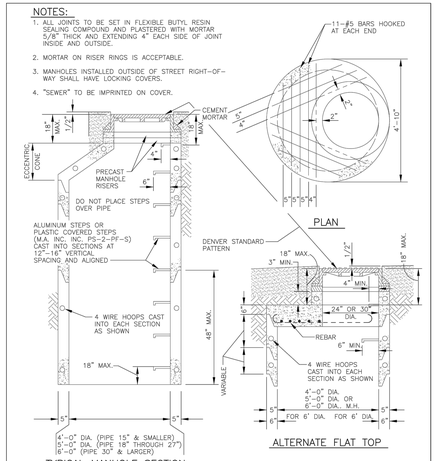
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JOB 21002209
SHEET NO. 20

CAD FILE: 21002209-FF-STREET DETAILS.DWG

LAST DESCRIPTION ERRONEOUSLY CONSTRUCTED FIRST STANDARD 2 APPROX. 2.5' IN WIDTH AT ROW

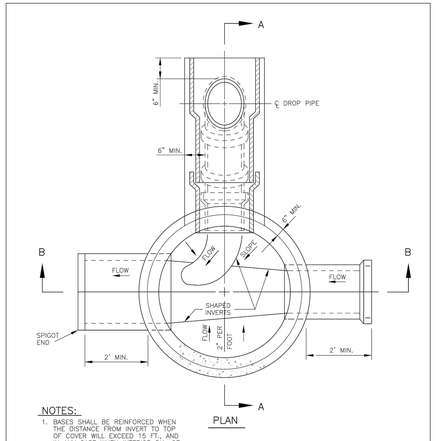


DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14

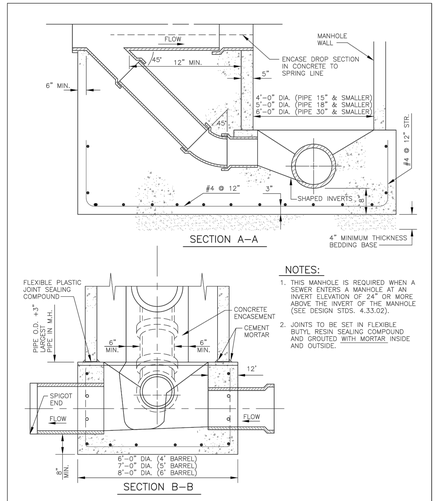


TYPICAL MANHOLE SECTION WITH ECCENTRIC CONE

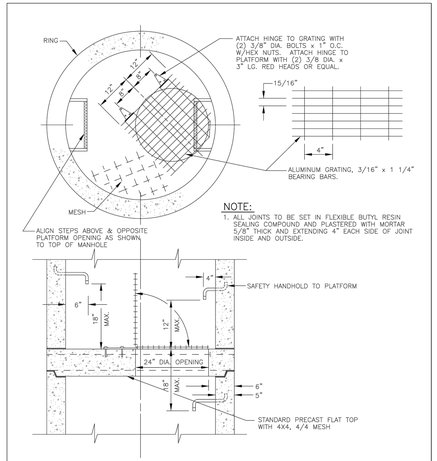
DESIGN STANDARDS	STANDARD DRAWING
MANHOLE BARRELS AND ALTERNATE TOPS	SS2
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
MONOLITHIC BASES FOR DROP MANHOLE	SS3
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
DROP MANHOLE DETAIL	SS4
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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303.462.1100

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DETAILS
SANITARY DETAILS

DATE 2/8/2022

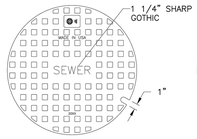
REVISIONS

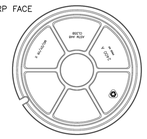
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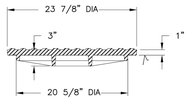
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2400A Cover

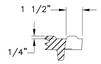




COVER BACK



SECTION



PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Cast Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

Certification
- ASTM A48
-Country of Origin USA

	DESIGN STANDARDS	STANDARD DRAWING
CITY OF Fort Lupton COLORADO COME PAINT YOUR FUTURE WITH US	SANITARY SEWER MANHOLE LID	SS12
		DATE: 5/04/2017

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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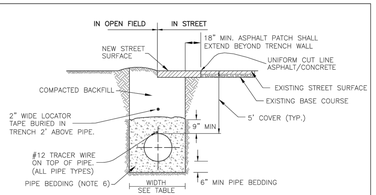
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TYPICAL TRENCH SECTION

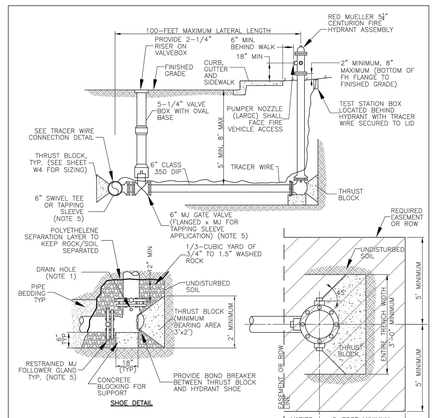
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM. HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

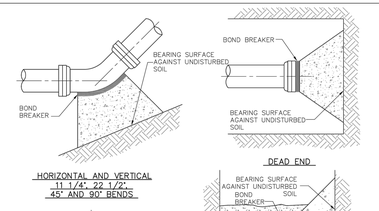
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



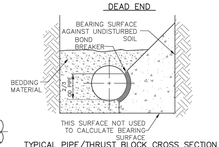
NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS



DEAD END

TEE OR TAPPING SLEEVE

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA

(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

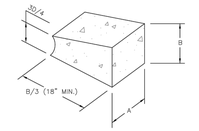
1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

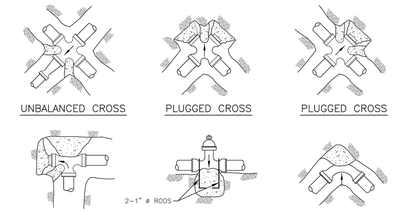


NOT TO SCALE

GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE.
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" AND 2" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE 45° AND 90° BENDS ONLY.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER VAULTS FOR 3" AND 4" METERS SHALL BE SIZED TO ACCOMMODATE A COMPOUND METER. VAULTS SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. NOTE: VAULT SHALL BE GROUNDED TO THE WATER MAIN.
14. NOTE: VAULT ROOFING, WALLS AND FLOOR PLATES MUST BE MANUFACTURED STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 23

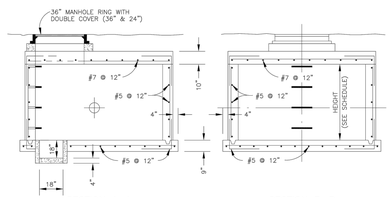
CAD FILE: 21002209-F7-WATER DETAILS.DWG

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

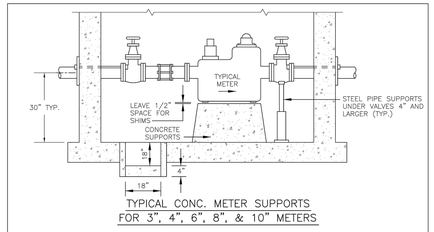
VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)



METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

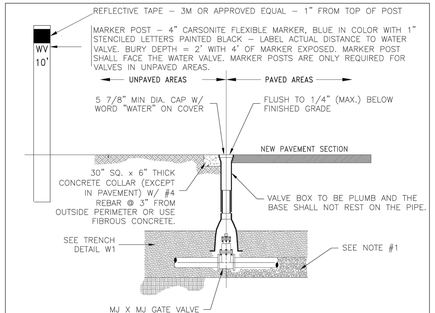
CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL METER VAULT	W12
		DATE: 8/15/14



NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

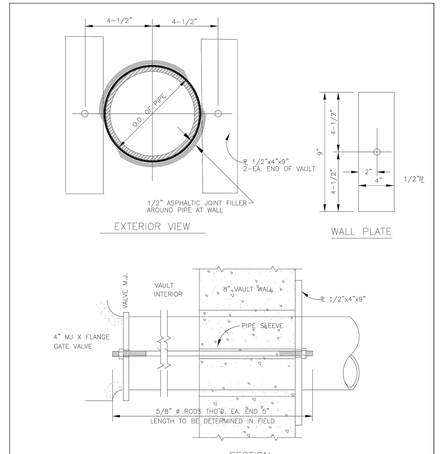
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	STANDARD CONCRETE METER SUPPORTS	W13
		DATE: 8/15/14

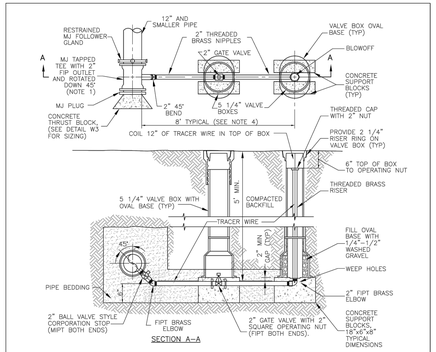


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VALVE BOX	W1
		DATE: 8/15/14



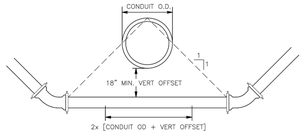
CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	WALL CLAMP	W15
		DATE: 8/15/14



NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE TAPPED. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPE.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO TRAPPING THRUST BLOCKS.

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
		DATE: 8/15/14

NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.



CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	CONDUIT CROSSING	W18
		DATE: 8/15/14

NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION AIR VALVE INSTALLATION	W19
		DATE: 8/15/14

CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	BORING DETAIL	W22
		DATE: 8/15/14

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	WATER VAULT LID	W24
		DATE: 8/15/14

NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

CITY OF Fort Lupton EST. 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	WET TAP CONNECTION – 4" AND LARGER TAP	W25
		DATE: 8/15/14

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FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

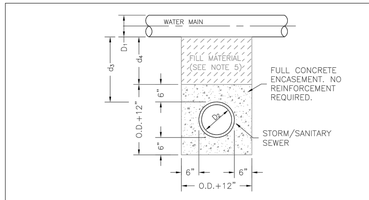
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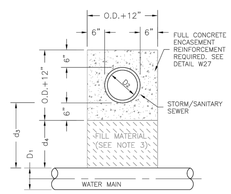
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P.M. DJR
JOB 21002209
SHEET NO. 24

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STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

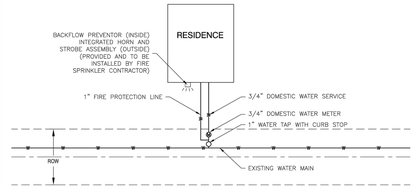
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d4≤6". COMPACTED BACKFILL, IF d4>6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	W26
	DATE: 8/15/14

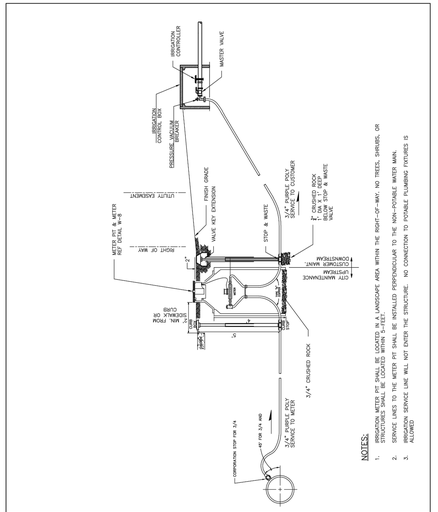
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

DESIGN STANDARDS	STANDARD DRAWING
SINGLE WATER TAP FOR FIRE LINE	W29
	DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-POTABLE WATER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" IRRIGATION METER SETS	W30
	DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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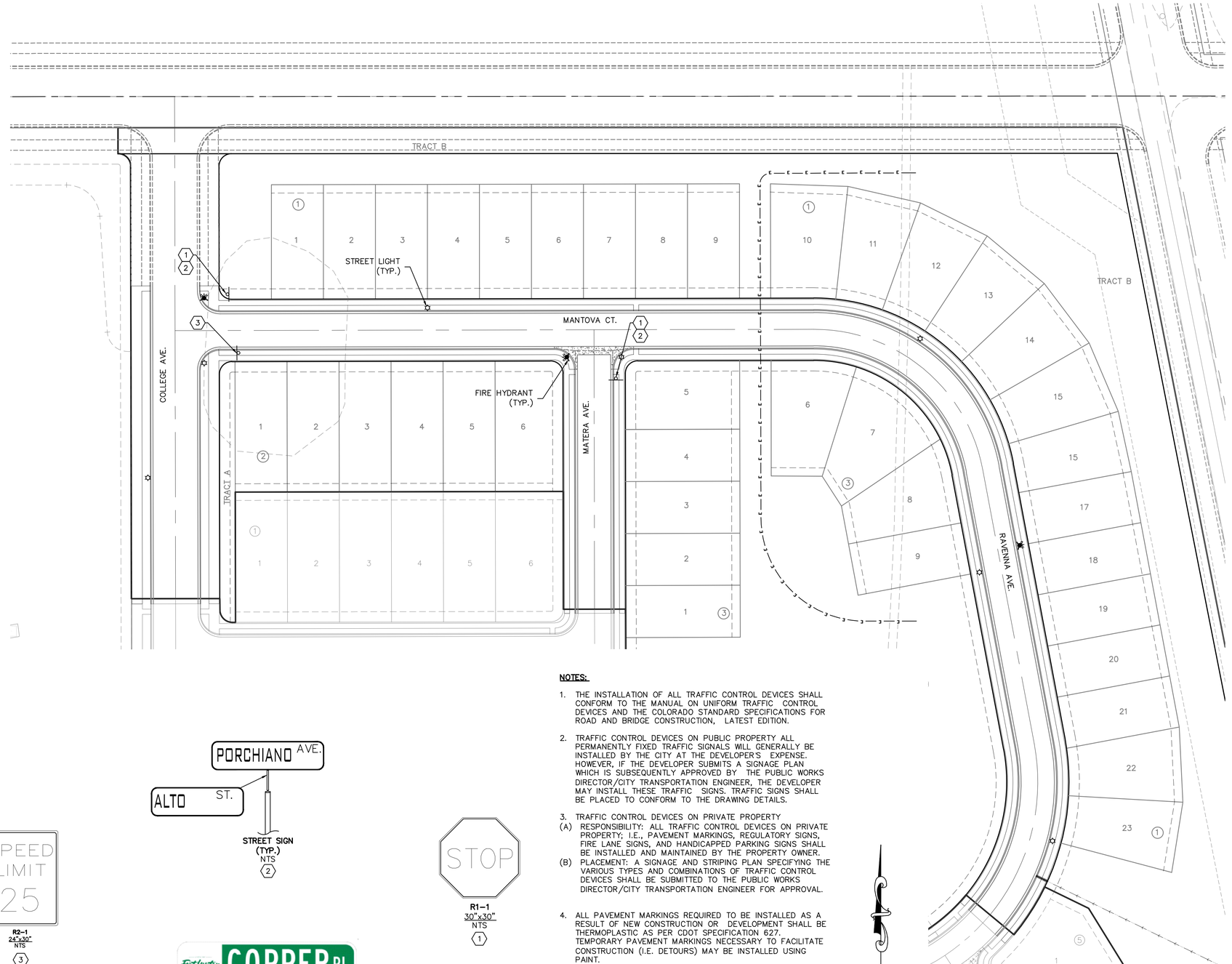
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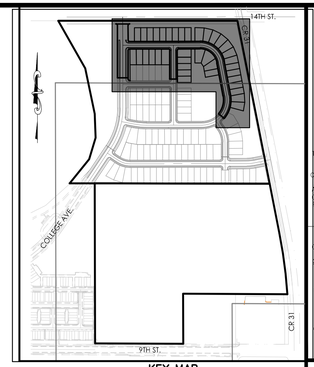
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 25

CAD FILE: 21002209-F7-WATER DETAILS.DWG

J:\2021\21002209\CONSTRUCTION\F7 FORT LUPTON\F7 PLANS\F7 DETAILS 2 OF 2.DWG 2/8/2022 8:47:14 AM CHRISTOPHER J. GUNN





KEY MAP
N.T.S.

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COTTONWOOD GREENS FILING NO. 7
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 26

CAD FILE: 21002209-FP-SIGNAGE AND STRIPING.DWG

PORCHIANO AVE.
ALTO ST.
STREET SIGN (TYP.)
NTS
2

SPEED LIMIT 25
R2-1
24"x30"
NTS
3

STOP
R1-1
30"x30"
NTS
1

Fort Lupton COPPER PL
D3
VARIABLE SIZE
NTS

CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS

NOTES:

1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.
3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
   (A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
   (B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.
4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.
5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

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DESCRIPTION:\\ATWELL\DENVER\PROJECTS\21002209\FP\SIGNAGE AND STRIPING\21002209-FP-SIGNAGE AND STRIPING.DWG

COTTONWOOD GREENS FILING NO. 8

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 8 CONSTRUCTION PLANS

<u>LEGAL DESCRIPTION</u>:

COTTONWOOD GREENS PUD FILING NO. 8

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 38°32'50" EAST 1688.35 FEET TO THE NORTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTHEAST CORNER OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTH LINE OF SAID CONNER FAMILY TRUST, AND ALONG THE SOUTH LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5 SOUTH 89°52'26" EAST 1065.75 FEET;

THENCE DEPARTING SAID NORTH AND SOUTH LINES SOUTH 00°07'09" EAST 123.08 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE SOUTH 00°07'09" EAST 10.00 FEET;

THENCE SOUTH 89°52'51" WEST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 88.00 FEET;

THENCE SOUTH 89°52'51" WEST 110.51 FEET;

THENCE SOUTH 00°07'09" EAST 105.00 FEET;

THENCE SOUTH 89°52'51" WEST 584.88 FEET;

THENCE SOUTH 00°07'09" EAST 383.92 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 3.84 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE NORTH 89°59'48" WEST 222.00 FEET TO THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG SAID EAST LINE NORTH 00°08'34" WEST 873.93 FEET TO THE POINT OF BEGINNING;

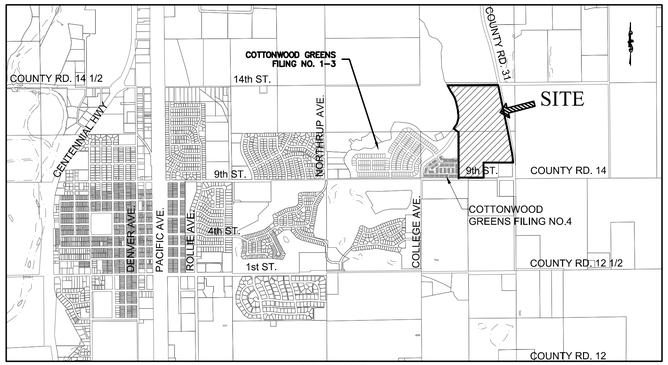
SAID TRACT OF LAND CONTAINS 553,160 SQUARE FEET, OR 12.70 ACRES, MORE OR LESS.

<u>RESIDENTIAL DESIGN STANDARDS VARIANCES</u>

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.



<u>VICINITY MAP</u>
SCALE: 1"=2,000'

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32	SIGNAGE & STRIPING

<u>CITY ENGINEER'S APPROVAL:</u>

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

<u>CITY WATER AND SEWER DEPARTMENT APPROVAL:</u>

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

<u>CITY ADMINISTRATOR'S APPROVAL:</u>

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

<u>PLANNING COMMISSION RECOMMENDATION:</u>

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

<u>MAYOR'S CERTIFICATE:</u>
THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ___ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

<u>OWNER:</u>
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACAURTHER BLVD., SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

<u>CIVIL ENGINEER:</u>
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

<u>SURVEYOR:</u>
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

<u>CITY OF FORT LUPTON:</u>
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

<u>XCEL ENERGY(GAS):</u>
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

<u>UNITED POWER (ELEC):</u>
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

<u>CENTURYLINK (FIBER OPTIC):</u>
5324 WADSWORTH BYP.,
SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ DATE
DANIEL J. RODRIGUEZ, P.E.
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-FB-COVER SHEET.DWG

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WTH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.

3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.

4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.

6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.

7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.

9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.

10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.

11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.

12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.

13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.

15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.

18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

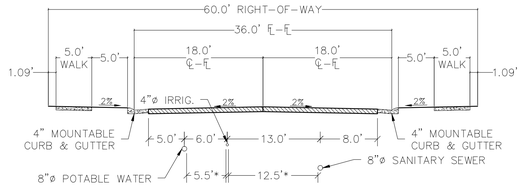
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

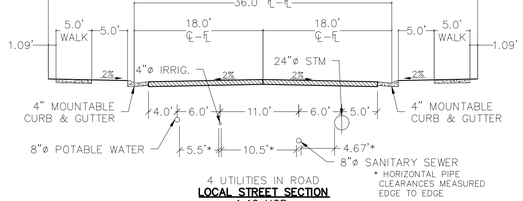
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- SS EXISTING SANITARY
- S PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- W EXISTING WATER
- W PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- IRR EXISTING IRRIGATION LINE
- GAS EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- OHE EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICAL
- CATV EXISTING CABLE TV
- FO EXISTING FIBER OPTIC CABLE
- X EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

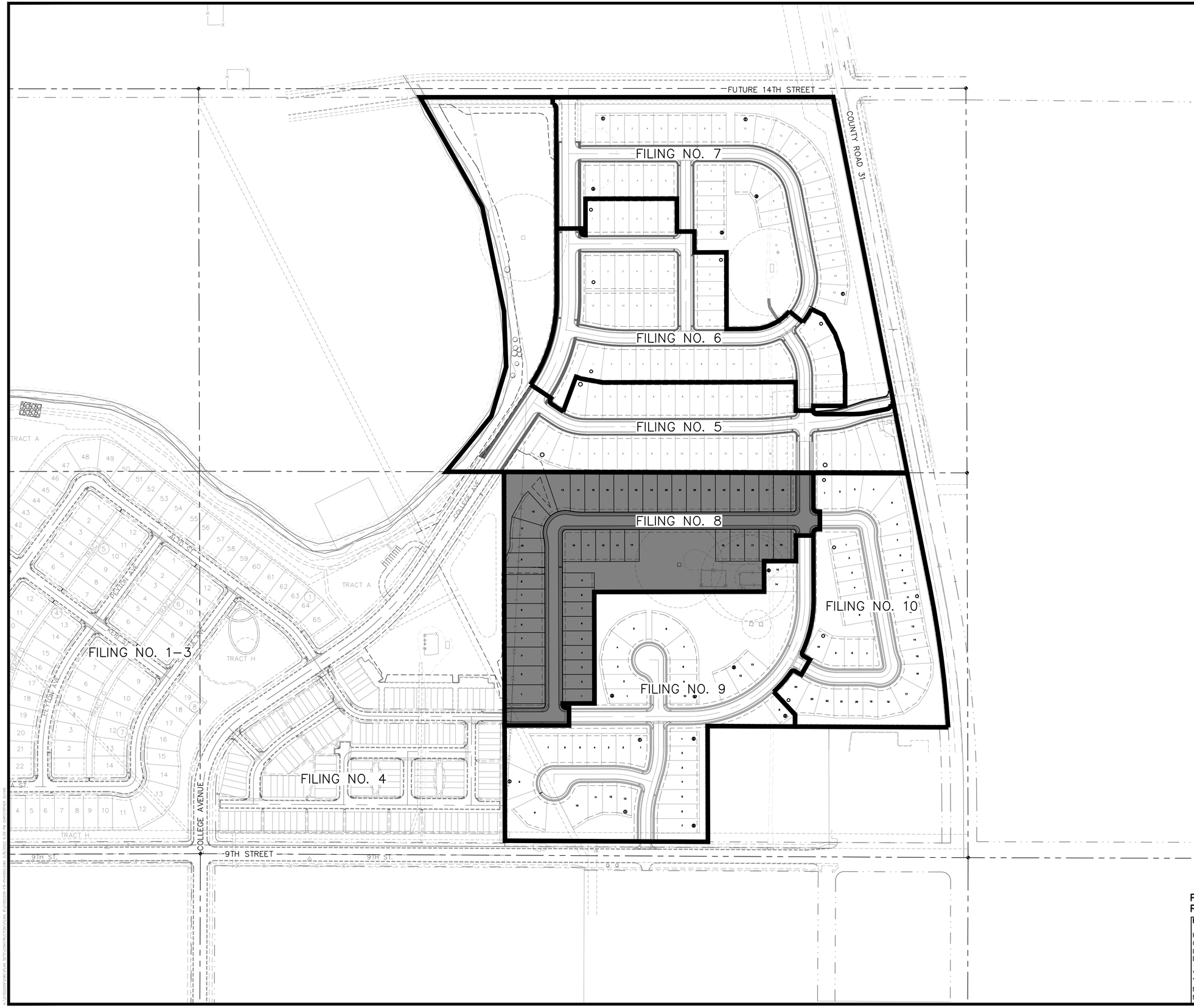
DATE 2/8/2022

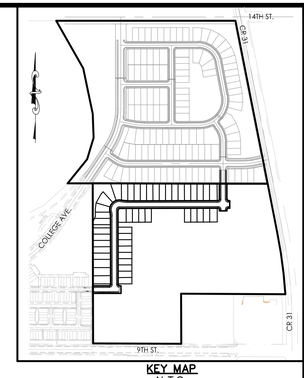
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

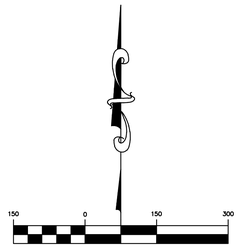
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P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209-R8-COVER SHEETDWG





KEY MAP
N.T.S.



(IN FEET)
1 inch = 150 ft.

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4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 3

CAD FILE: 21002209-F8-PHASING.DWG

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ATWELL GROUP DOES NOT ASSUME RESPONSIBILITY FOR THE CONFIGURATION OF ELECTRONIC DATA ONCE IT IS TRANSMITTED TO OTHERS

CONNECT TO EXISTING SANITARY SEWER MANHOLE FROM FILING NO. 5

PROPOSED 12" SAN. (PVC)

CONNECT TO EXISTING WATERLINE FROM FILING NO. 5

CONNECT TO EXISTING IRRIGATION LINE FROM FILING NO. 5

EXISTING POND AND TRICKLE CHANNEL FROM FILING NO. 4

TRACT E

TRACT A

TRACT B

TRACT C

TRACT D

TRACT F

COLLEGE AVE

CR 31

PROPOSED 12" SAN. (PVC)

W/L SERVICE (TYP.)

SS SERVICE (TYP.)

IRR. SERVICE (TYP.)

PROPOSED 8" SAN. (PVC)

50.0' GAS EASEMENT

24" RCP

CONNECT EXISTING STORM FROM FILING NO. 5 TO PROPOSED MANHOLE

18" RCP

36" RCP

STREET LIGHT (TYP.)

PROPOSED 4" IRR. (PVC)

24" RCP

PROPOSED 8" SAN. (PVC)

24" RCP

18" RCP

30" RCP

PROPOSED 8" W/L (PVC)

EXISTING POND AND TRICKLE CHANNEL FROM FILING NO. 4

18" RCP

CONNECT EXISTING STORM FROM FILING NO. 1-3 TO PROPOSED MANHOLE

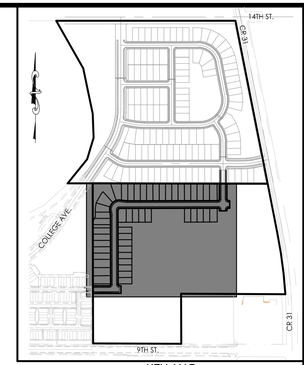
18" RCP

CONNECT TO EXISTING WATERLINE FROM FILING NO. 4

PROPOSED 12" SAN. (PVC)

PROPOSED 12" SAN. (PVC)

PROPOSED 8" SAN. (PVC)



KEY MAP
N.T.S.

OVERALL UTILITY NOTES:

1. INTERIOR GAS AND WELL FACILITIES ARE TO BE ABANDONED PRIOR TO CONSTRUCTION. SEE NOTE 2 FOR EXCEPTIONS. CONFIRM WITH GAS COMPANY PRIOR TO MOBILIZATION. NOTIFY ENGINEER IF WELL SITES AND LINES ARE STILL ACTIVE.
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50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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NEWPORT BEACH, CA 92660
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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

OVERALL UTILITY

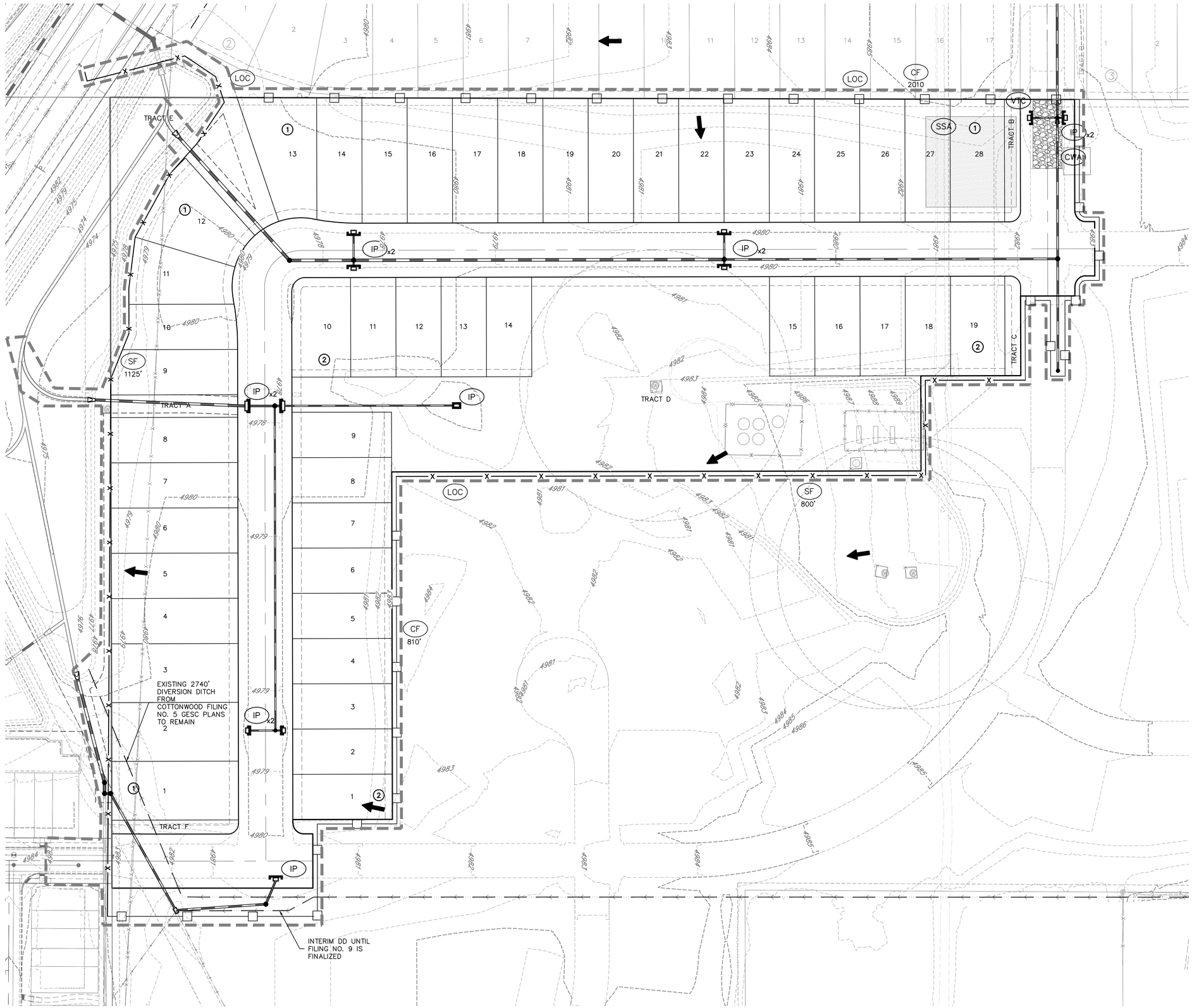
DATE 2/8/2022

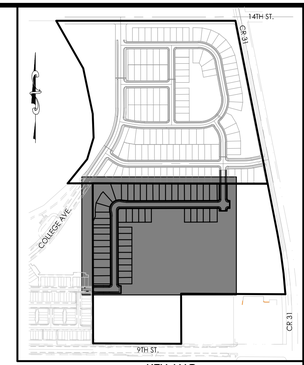
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DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-8-OVERALL UTILITY.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

1. SEE FILING NO. 5 GESC FOR EXISTING PERIMETER CONTROLS AND OTHER GESC MEASURES THAT REMAIN ON THE SITE AT THE START OF CONSTRUCTION OF THIS FILING. THE EXISTING FILING NO. 5 GESC IS THE INITIAL PHASE.
2. SEE DETAILS FOR MORE INFO ON EACH BMP NAMES AND SYMBOLS.
3. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC DRAWING AND, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY.
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GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC INTERIM

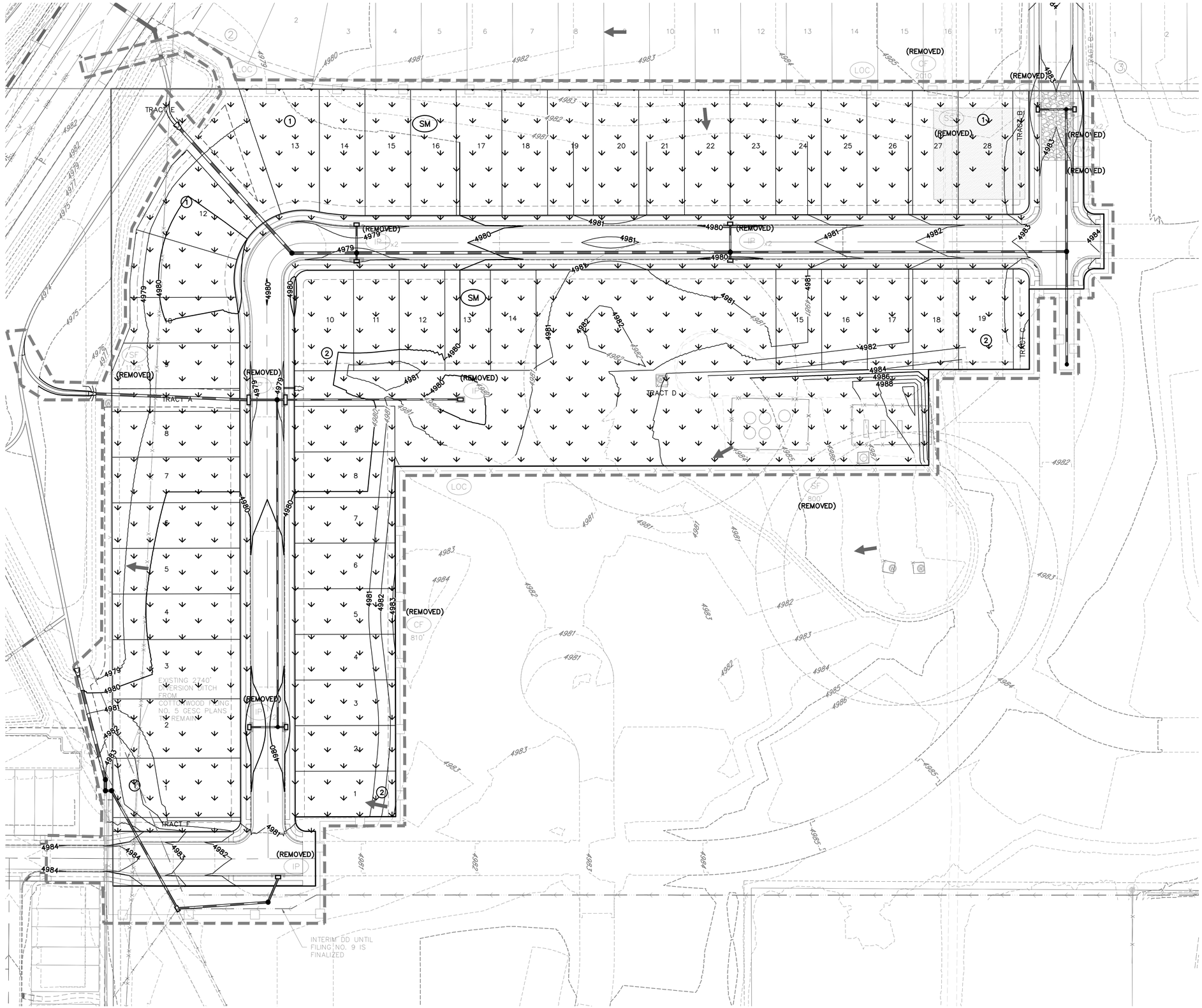
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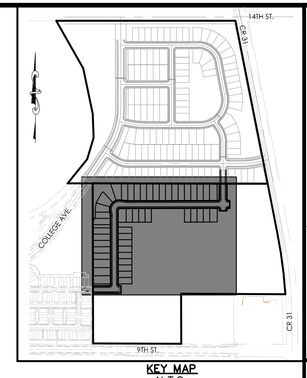
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2/7/2022 1:57:27 PM

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P.M. DJR
JOB 21002209
SHEET NO. 5

CAD FILE: 21002209-GESC INTERIM - PB.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 6

CAD FILE: 21002209-GESC FINAL - FB.DWG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

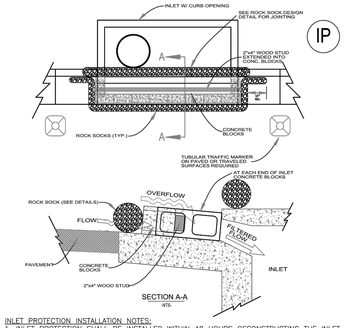
DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

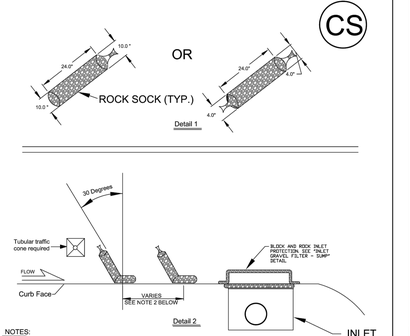
TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14



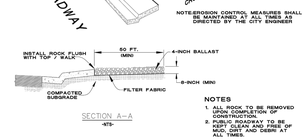
INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14



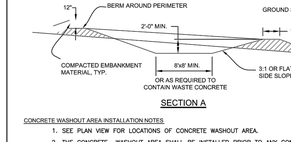
NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14

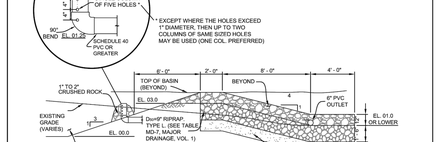


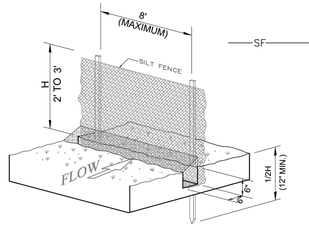
SECTION A

CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TRCUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

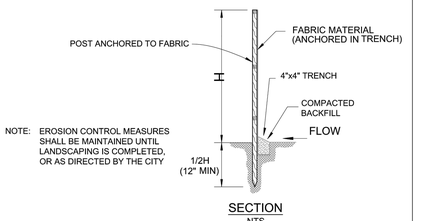
DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14


SB
INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF TEMPORARY SLOPE DRAIN (SEE TSD DETAILS)
RELATIVE ELEVATION, TYP. 4"TO 7" COBBLE/HAND PLACED ROCK RIPRAP
6" PVC
45° BEND
FLOW
5.0 x 5.0 x 2.0 D RIPRAP PAD Do = 9", TYPE L, (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 OR AS CALLED OUT ON THE PLANS)
W BOTTOM WIDTH
3:1
3:1
3:1



SILT FENCE INSTALLATION

-NTS-



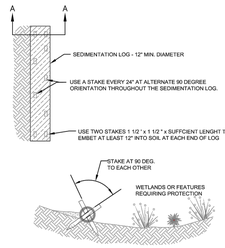
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SILT FENCE	EC 15
		DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

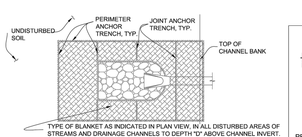
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

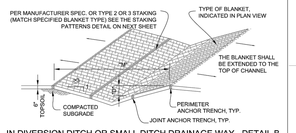
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SEDIMENT CONTROL LOGS	EC 16
		DATE: 8/15/14

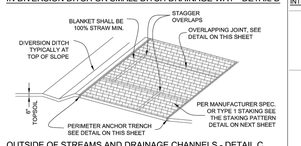
ECB



AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

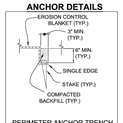


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B

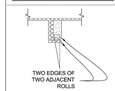


OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

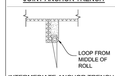
ANCHOR DETAILS



PERIMETER ANCHOR TRENCH



JOINT ANCHOR TRENCH



INTERMEDIATE ANCHOR TRENCH



OVERLAPPING JOINT

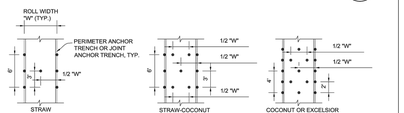


WOOD STAKE DETAIL

MINIMUM ACCEPTABLE USE 2x4 MATERIAL FOR STAKES

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET DETAILS	EC 17
		DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*		100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%		-	DOUBLE/NATURAL
EXCELSIOR			100%	DOUBLE/NATURAL

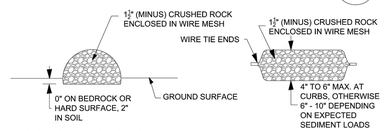
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

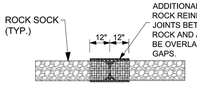
CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
		DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
11/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	ROCK SOCK DETAIL	EC 19
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

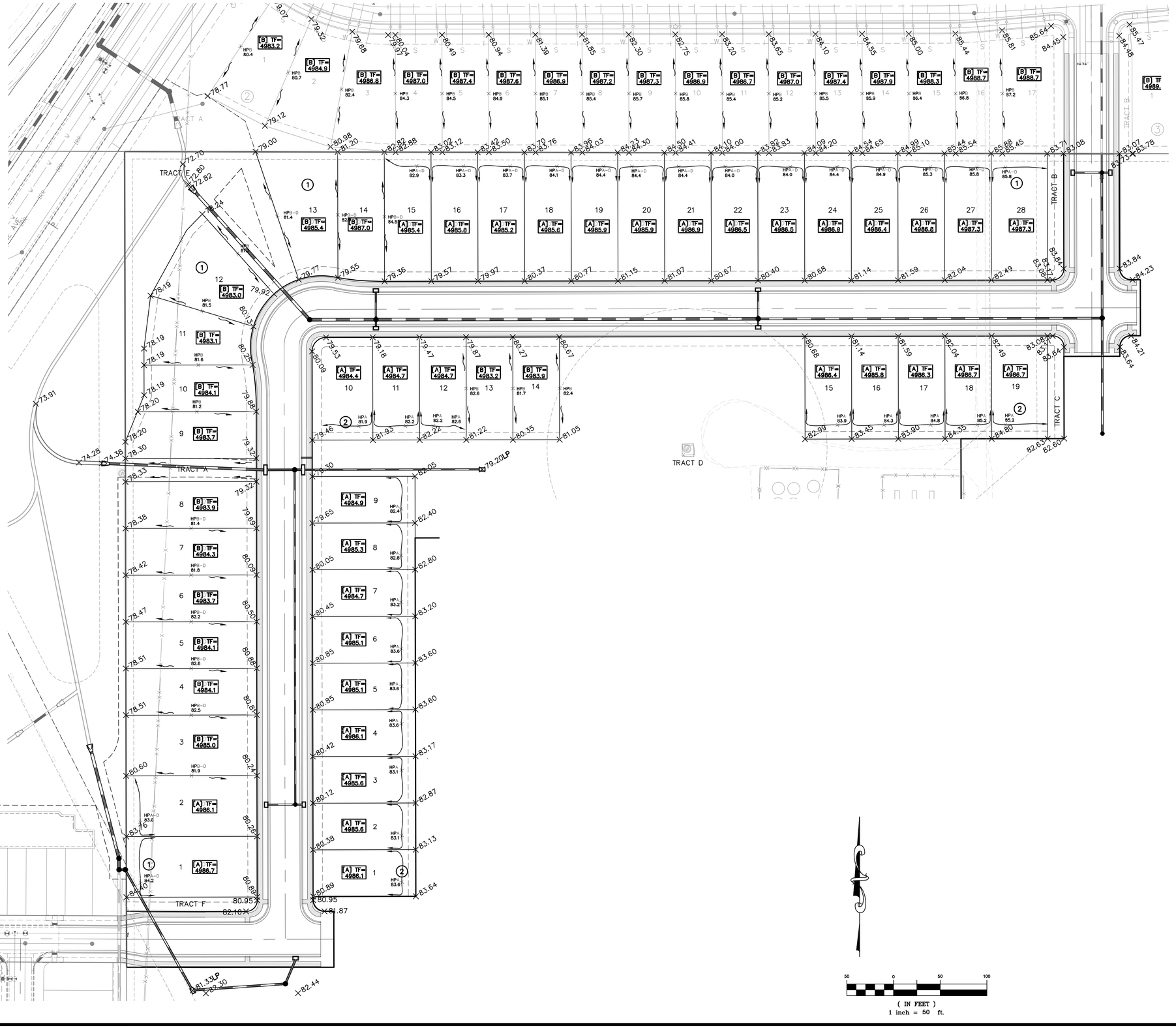
REVISIONS

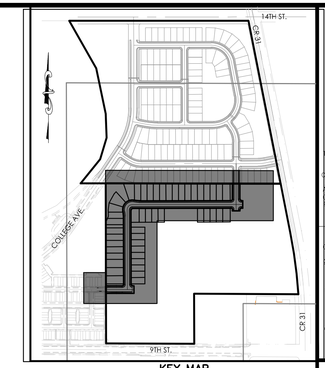
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 8

CAD FILE: 21002209-GESC DETAILS.DWG

I:\2021\21002209\CAD\CONSTRUCTION\21002209-GESC DETAILS.DWG 2/8/2022 1:34 PM CHRISTOPHER BROWN





KEY MAP
N.T.S.

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NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

DATE 2/8/2022

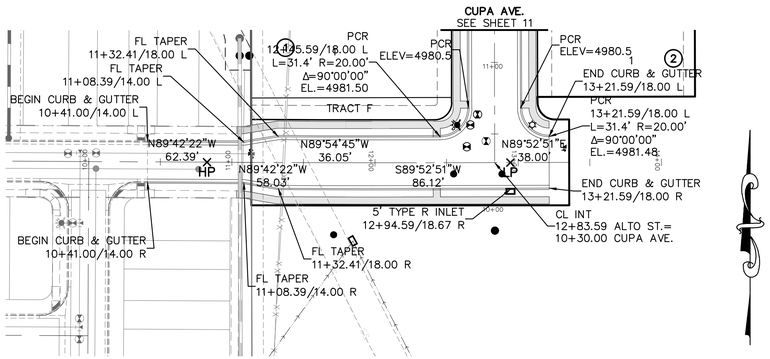
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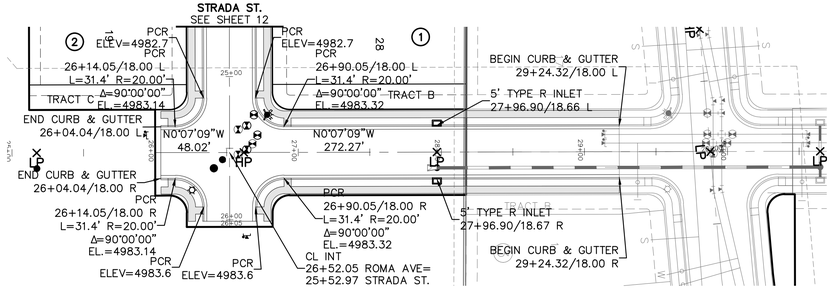
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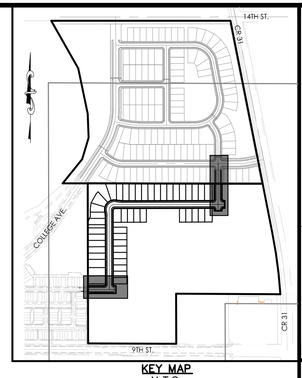
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JOB 21002209
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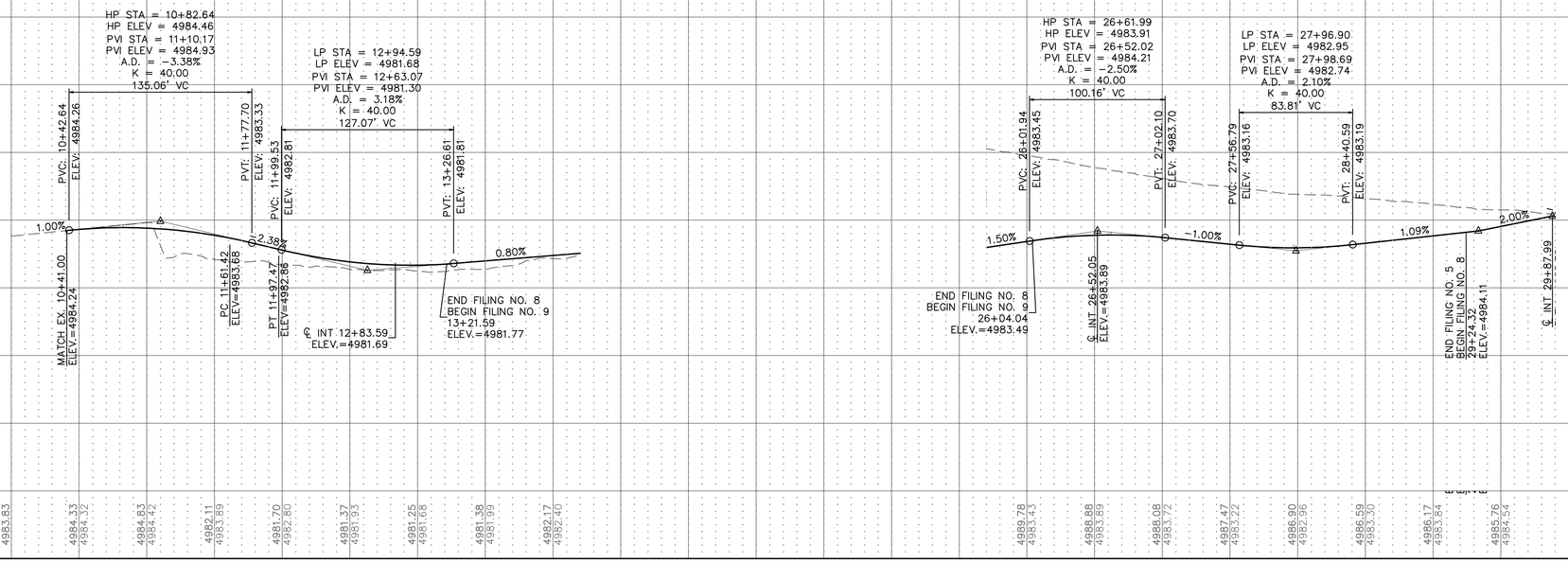


KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

ALTO ST.

ROMA AVE.



PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
STREET PLAN & PROFILE
ALTO ST. & ROMA AVE.

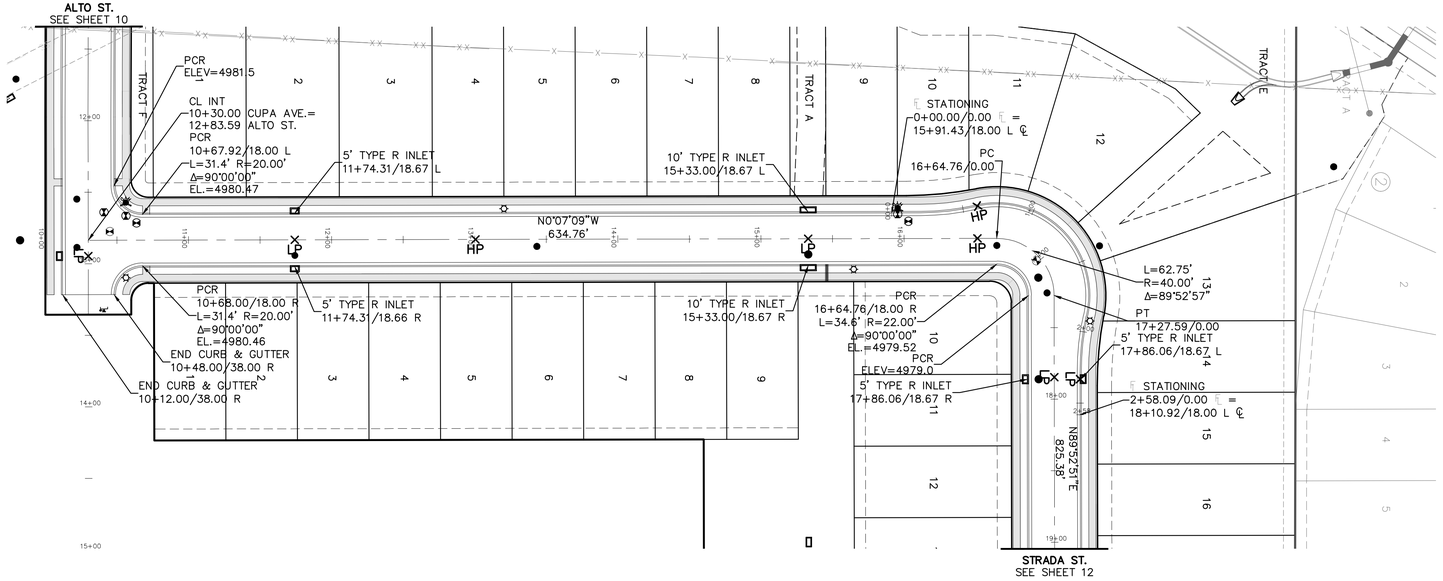
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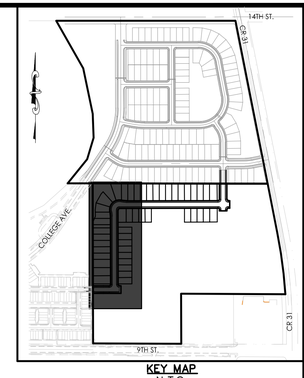
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SHEET NO. 10

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CUPA AVE.



KEY MAP
N.T.S.

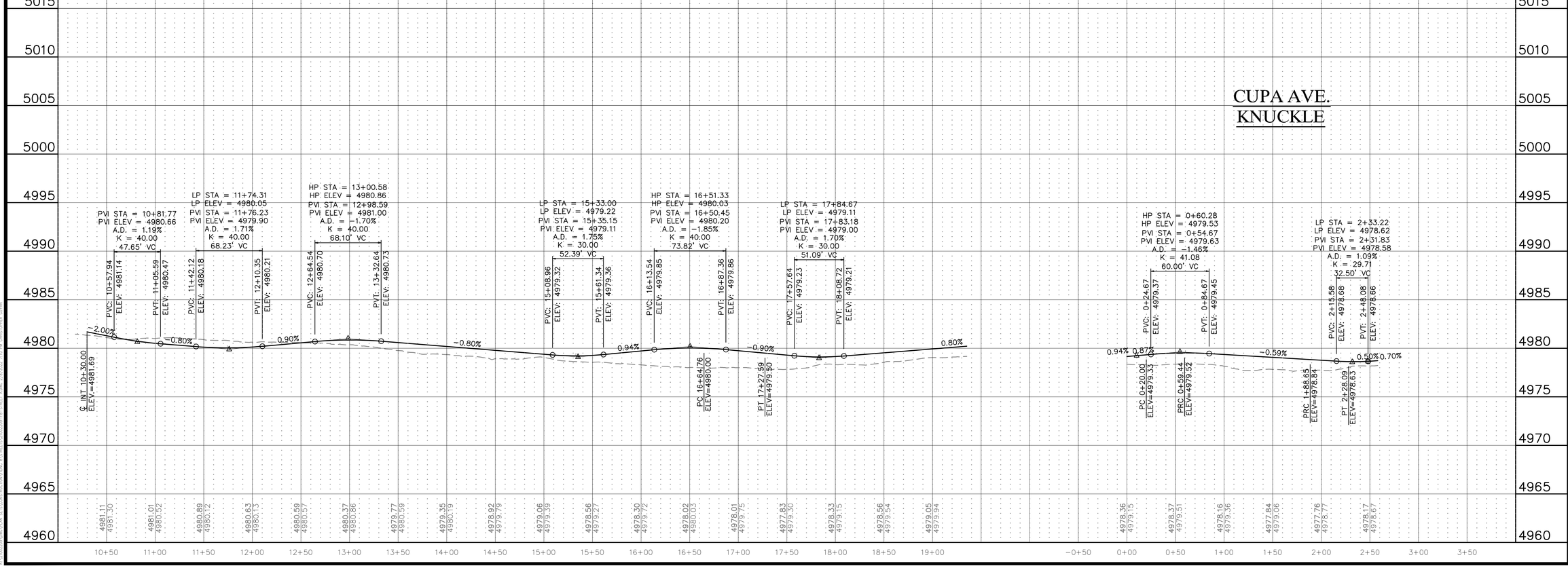
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PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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CLIENT
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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
CUPA AVE.

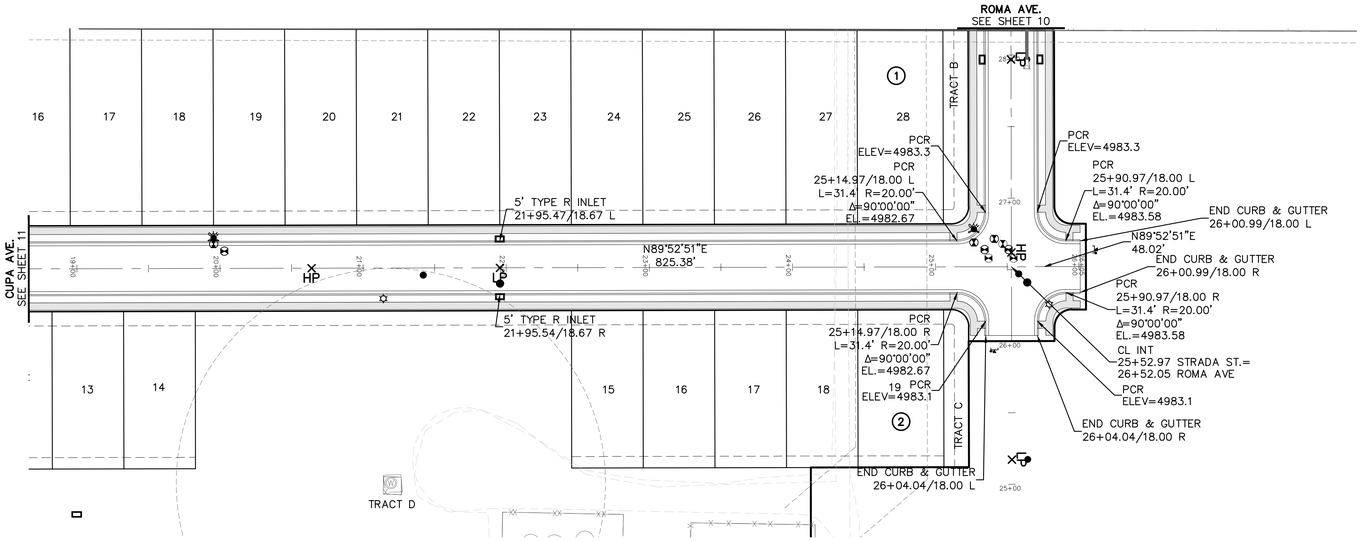
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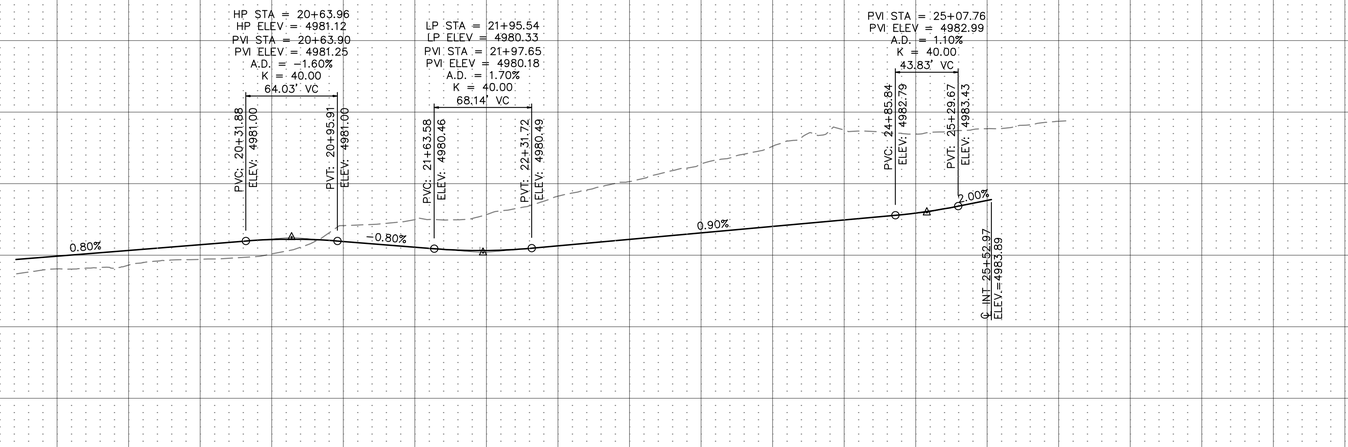
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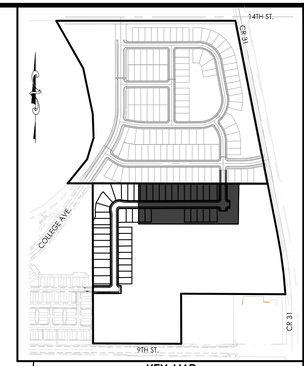
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JOB 20002948
SHEET NO. 11

CAD FILE: 21002269-FB-STREET A.DWG



STRADA ST.





KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
STRADA ST.

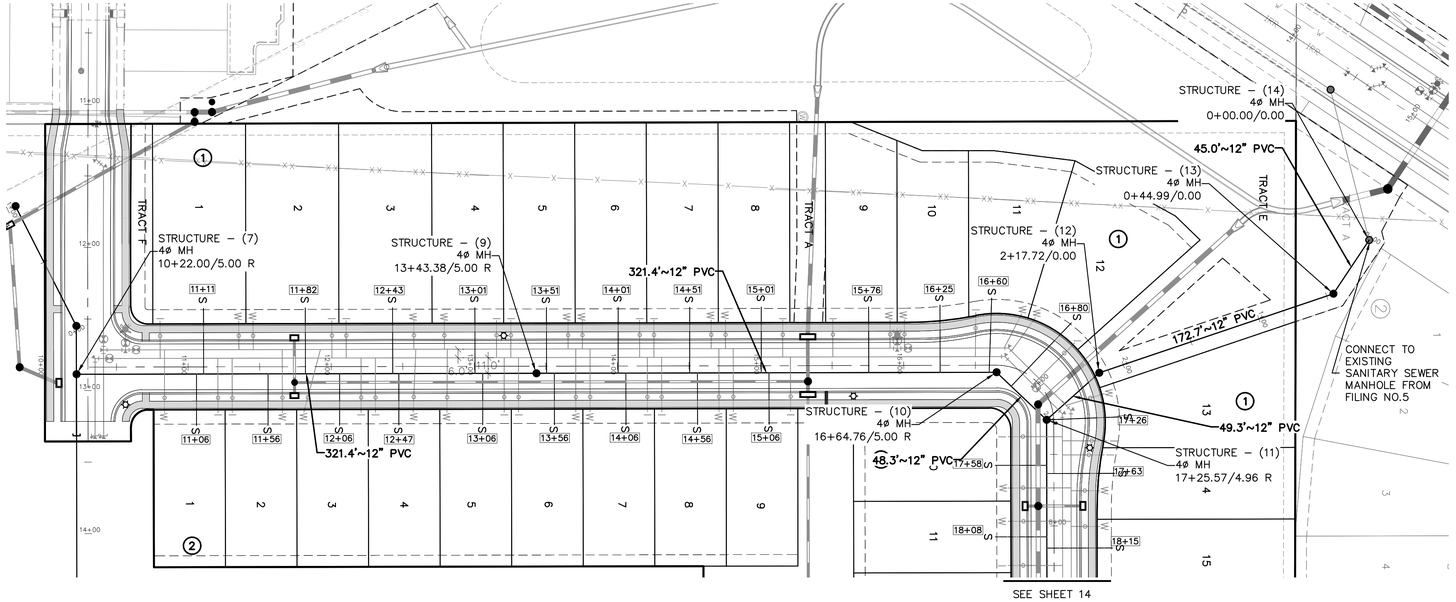
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SHEET NO. 12

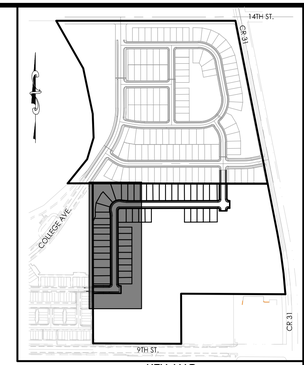
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NOTES:

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3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
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KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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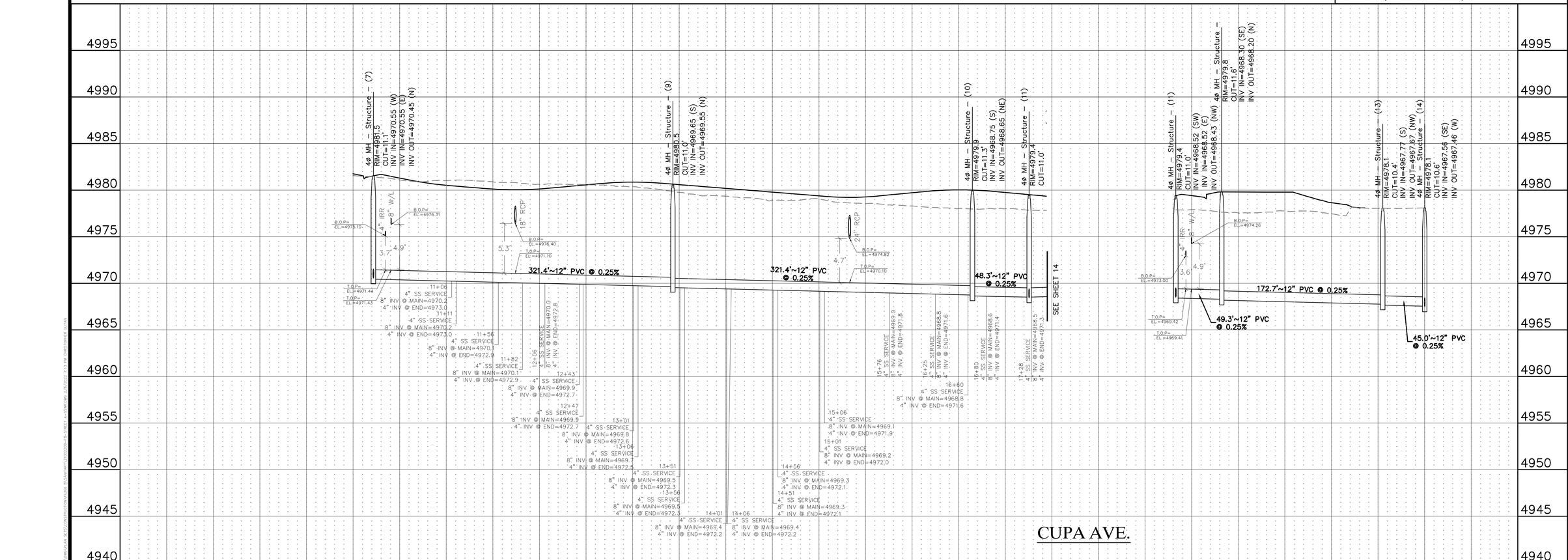
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303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
CUPA AVE.

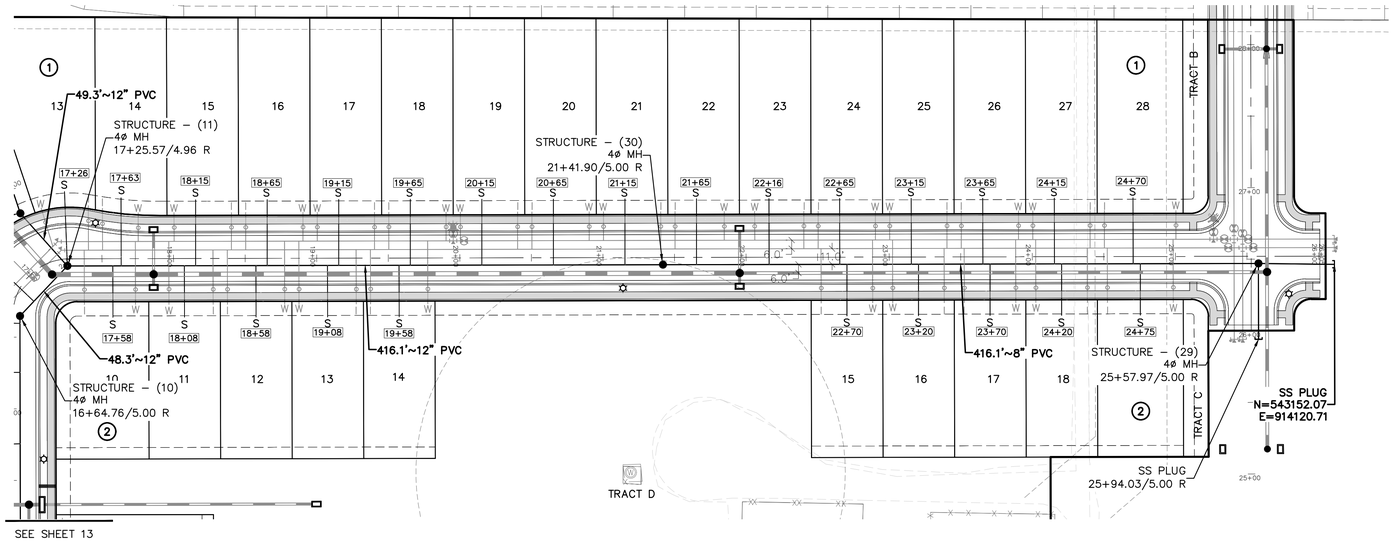
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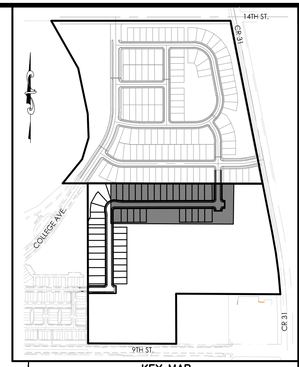
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 20002948
SHEET NO. 13

CAD FILE: 21002209-F8-STREET A-SSNR.DWG



STRADA ST.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
STRADA ST.

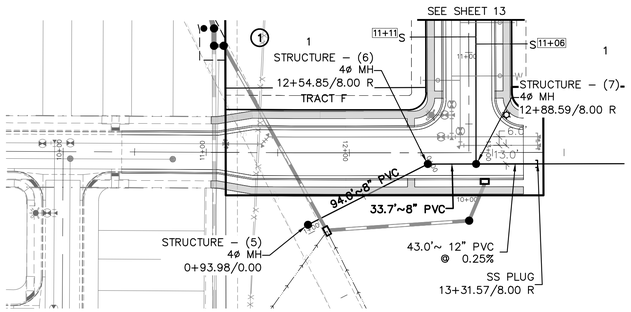
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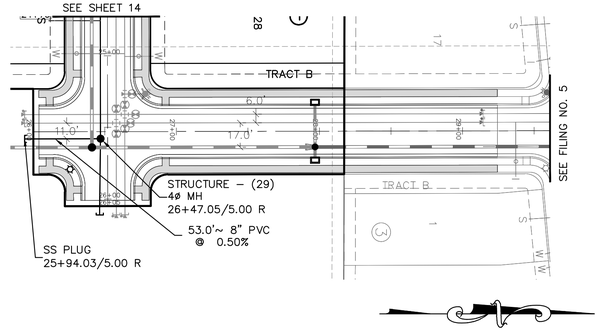
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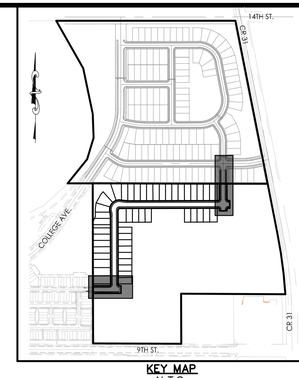
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SHEET NO. 14

CAD FILE: 21002209-F8-STREET A-SSNR.DWG







KEY MAP
N.T.S.

ROMA AVE.

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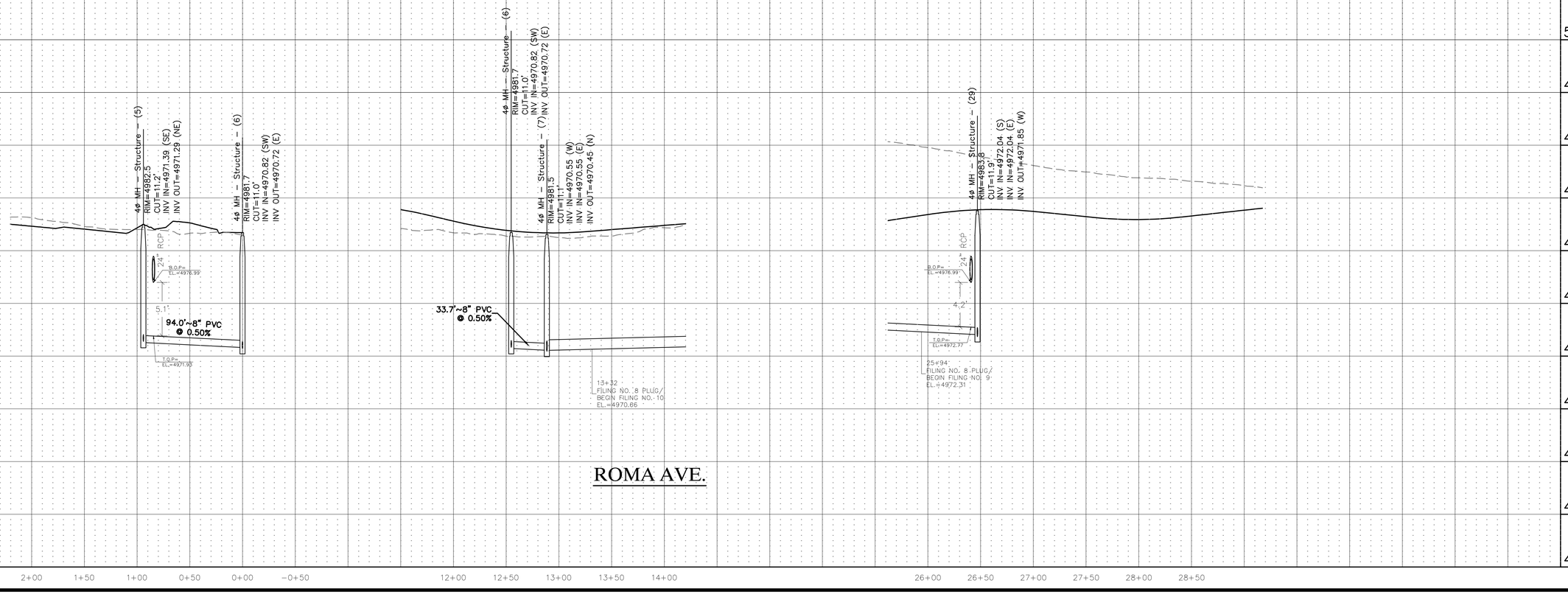
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
ROMA AVE.

DATE 2/8/2022

REVISIONS

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JOB 20002948
SHEET NO. 15

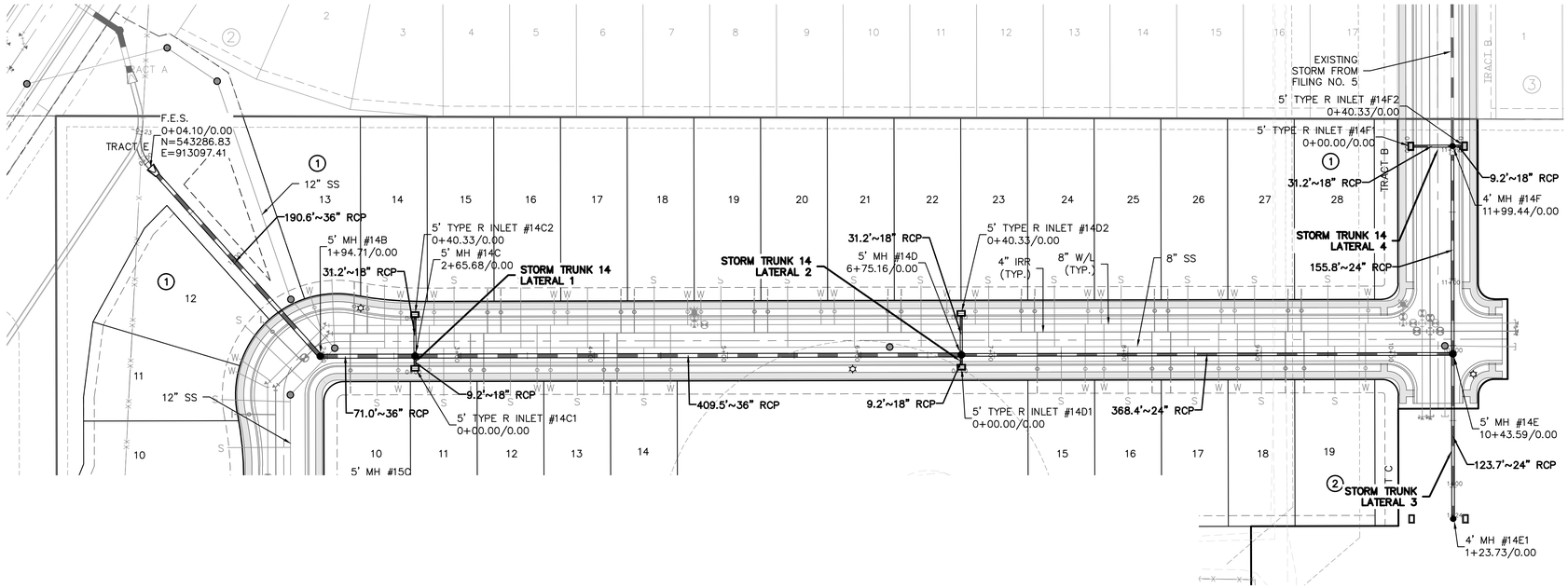
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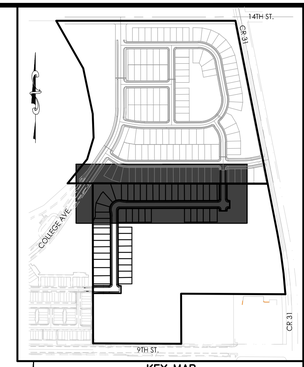
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1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

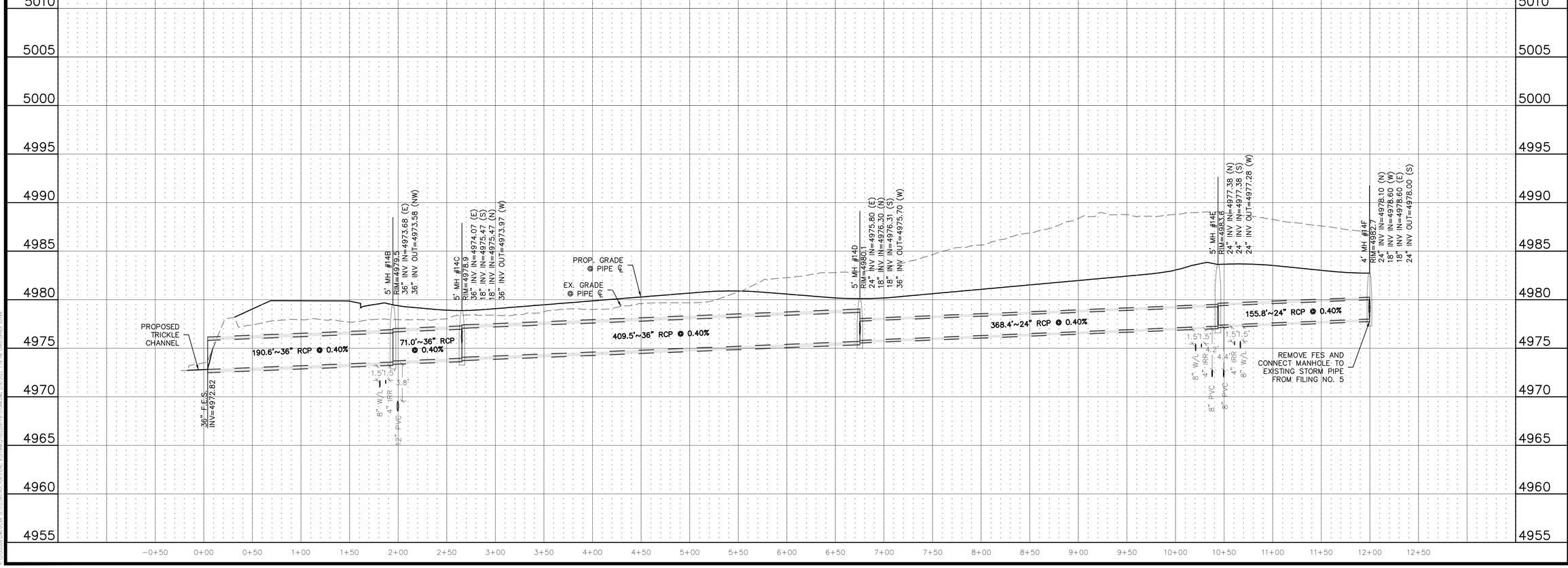
PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

STORM TRUNK 14



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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 14

DATE 2/8/2022

REVISIONS

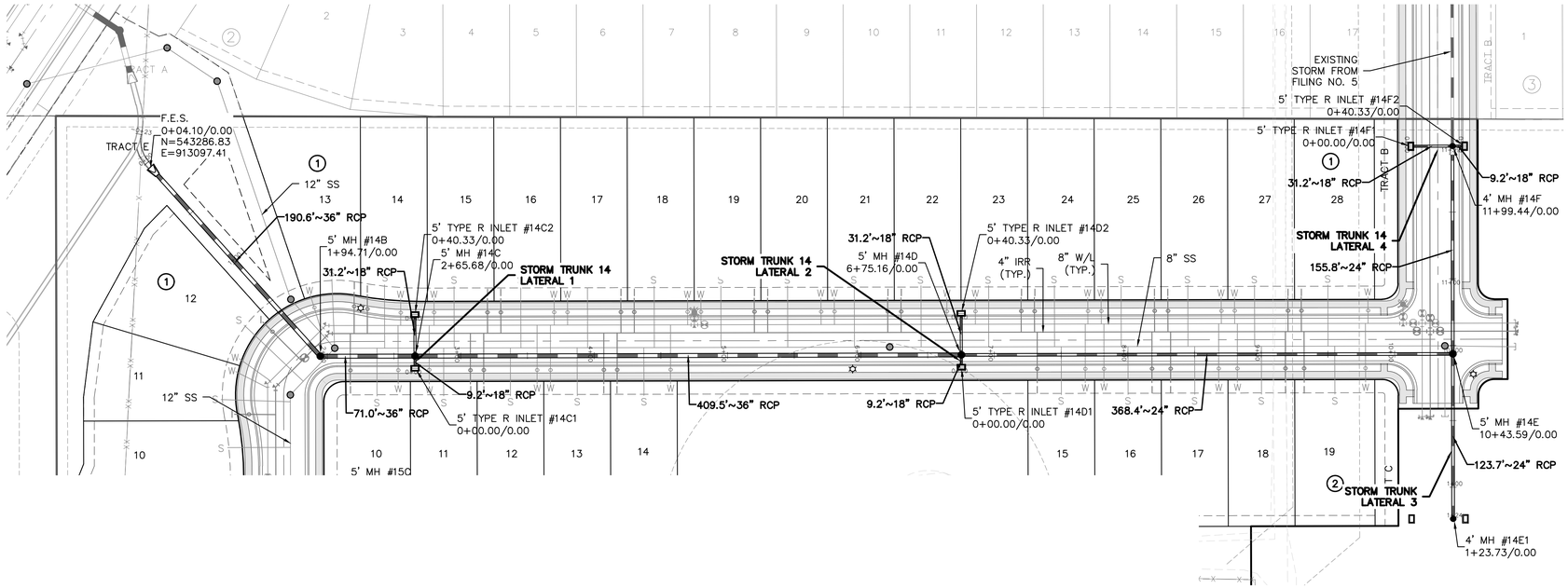
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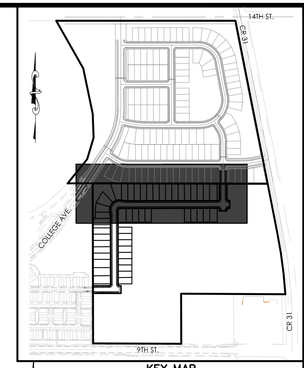
DR. EAP | CH. CJG
P.M. DJR

JOB 20002948

SHEET NO. 16

CAD FILE: 21002209-F8-STORM.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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COTTONWOOD GREENS, FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 14 LATERALS

DATE 2/8/2022

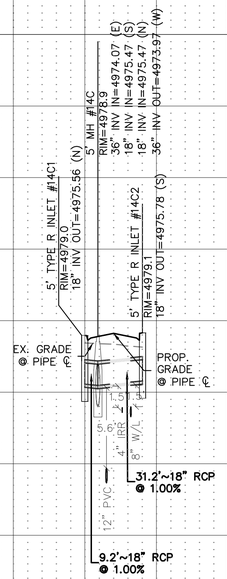
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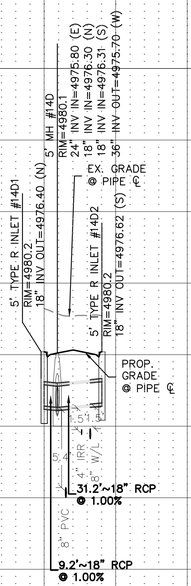
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P.M. DJR
JOB 20002948
SHEET NO. 17

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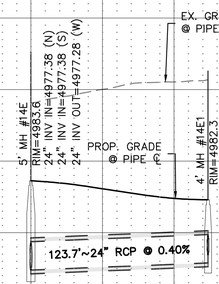
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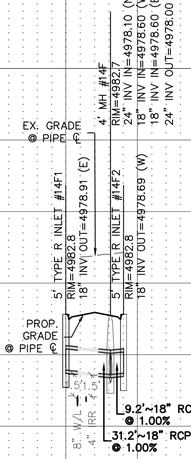
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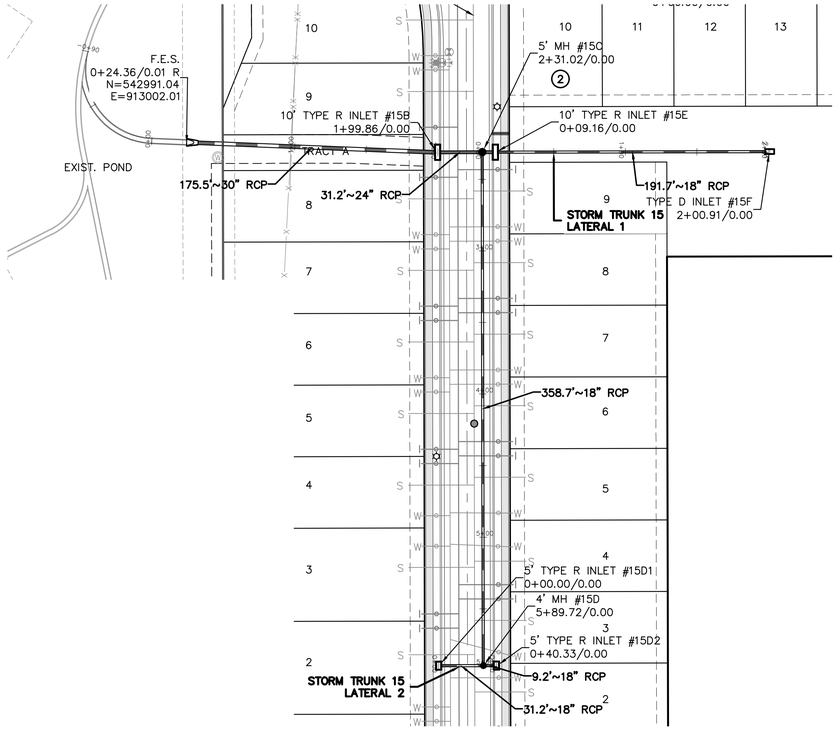


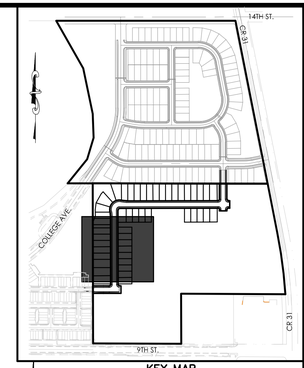
STORM TRUNK 14 LATERAL 3



STORM TRUNK 14 LATERAL 4







KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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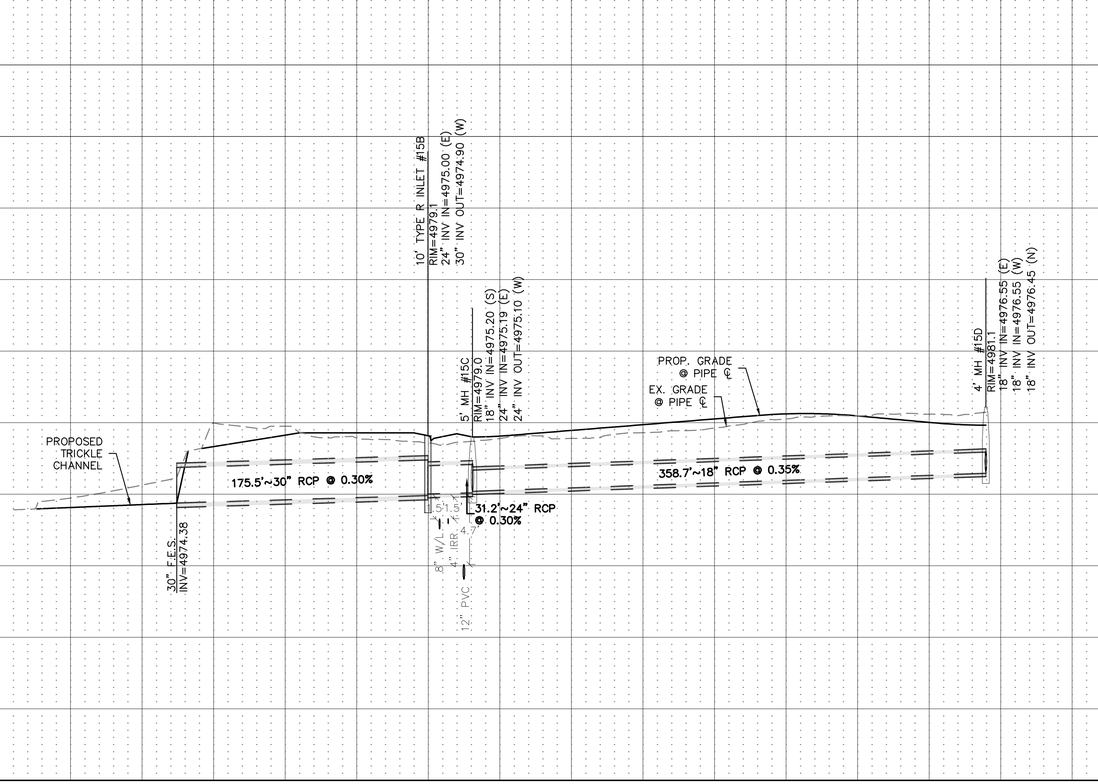
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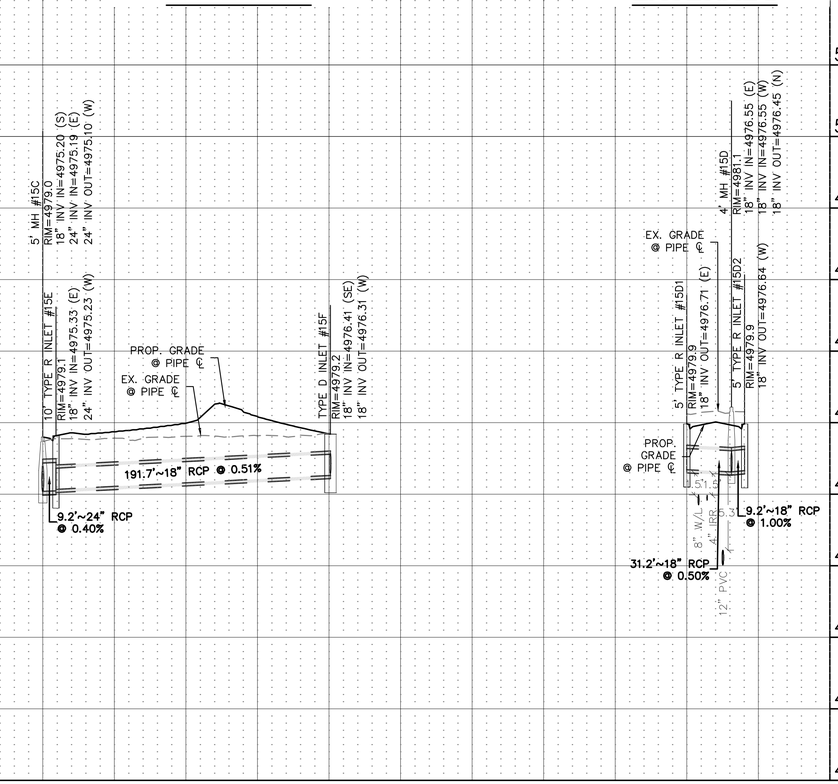
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STORM TRUNK 15



STORM TRUNK 15 LATERAL 1



STORM TRUNK 15 LATERAL 2

REVISIONS

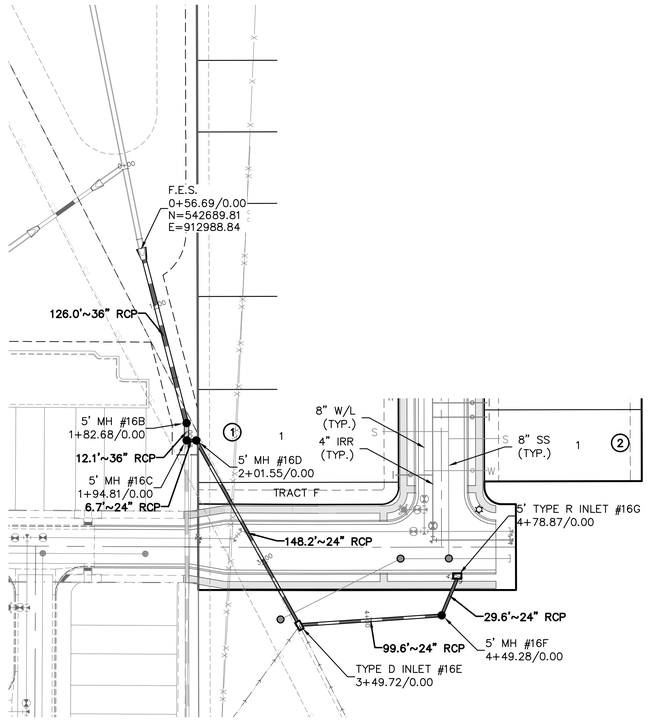
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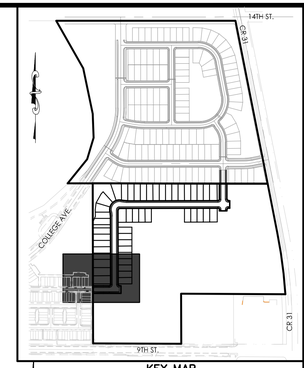
DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 18

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 15

DATE 2/8/2022

CAD FILE: 21002208-F8-STORM.DWG





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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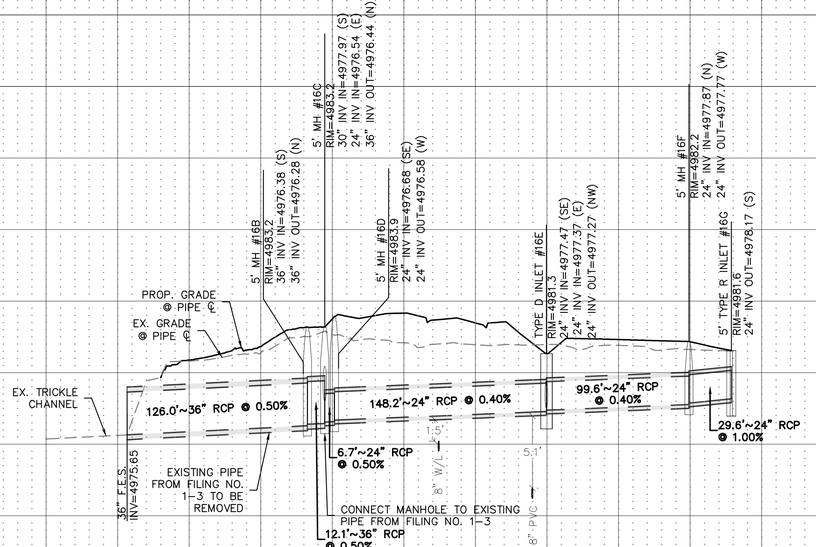
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STORM TRUNK 16



5010 5005 5000 4995 4990 4985 4980 4975 4970 4965 4960 4955

−0+50 0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50

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4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 16

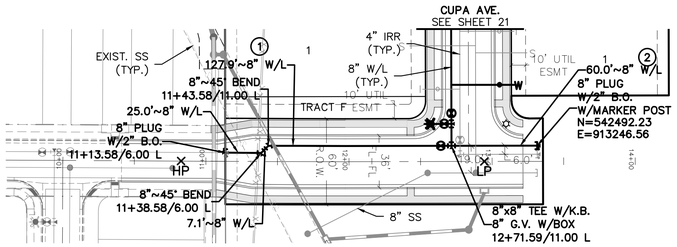
DATE 2/8/2022

REVISIONS

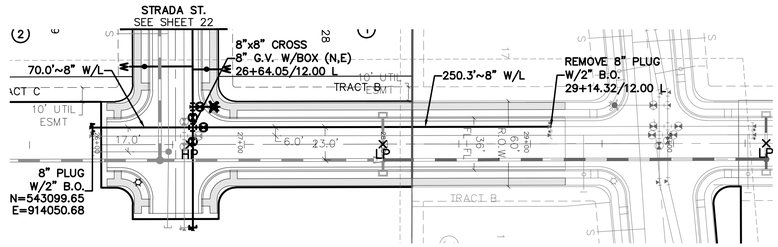
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 20002948
SHEET NO. 19

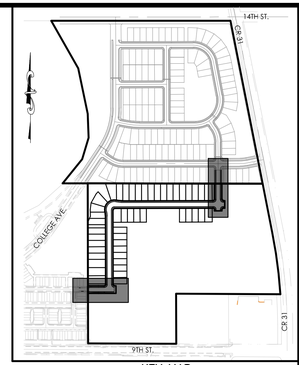
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ALTO ST.



ROMA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
ALTO ST. & ROMA AVE.

DATE 2/8/2022

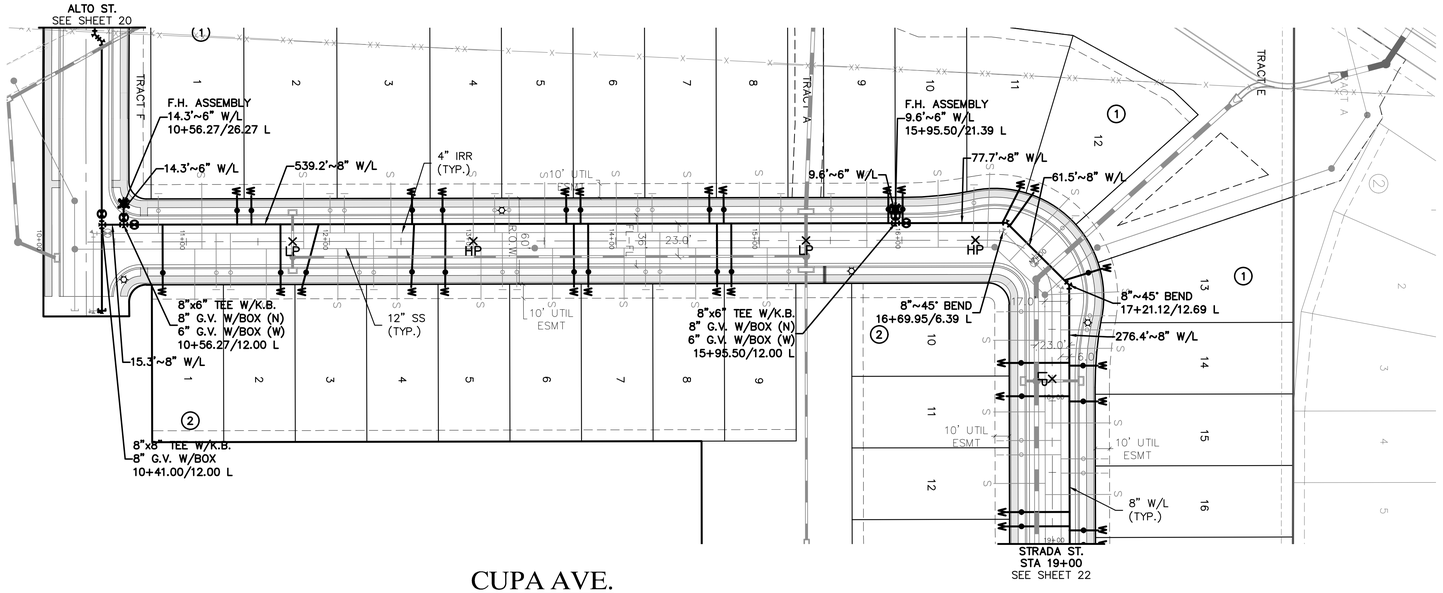
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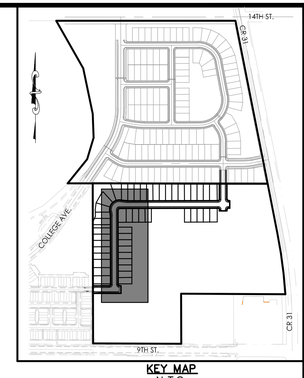
PLANS UNDER REVIEW
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DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 20

CAD FILE: 21002209-F8-WATER P&P-01.DWG

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KEY MAP
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50 0 50 100

(IN FEET)
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1 inch = 5 ft. (Vert)

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
CUPA AVE.

DATE 2/8/2022

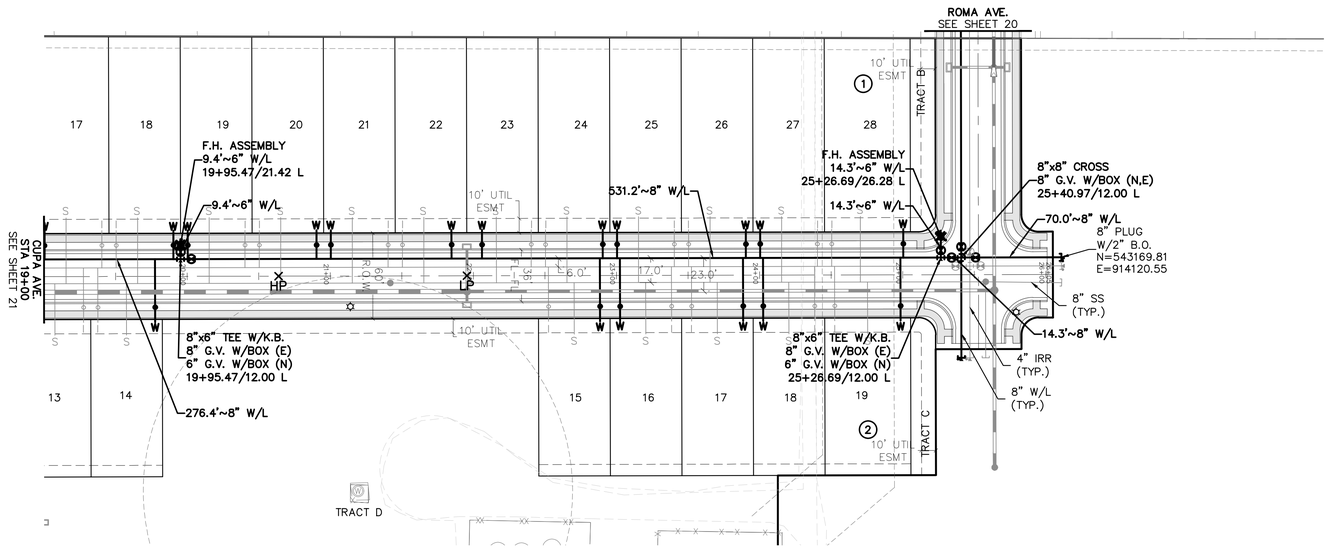
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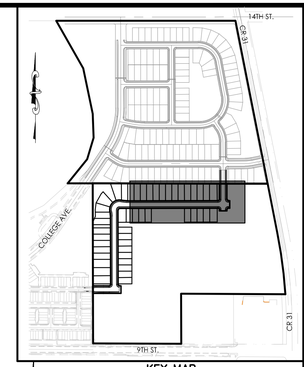
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P.M. DJR
JOB 21002209
SHEET NO. 21

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STRADA ST.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
STRADA ST.

DATE 2/8/2022

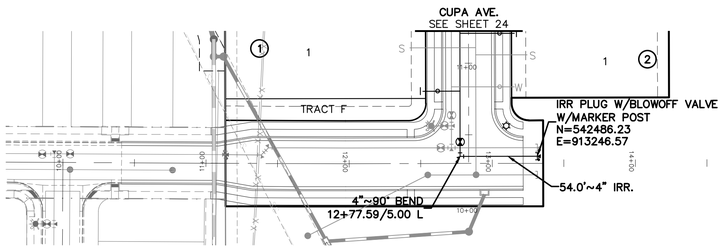
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PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

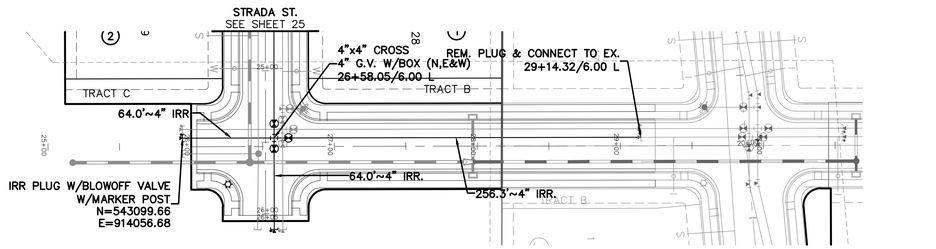
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JOB 21002209
SHEET NO. 22

CAD FILE: 21002209-18-WATER P&P-02.DWG

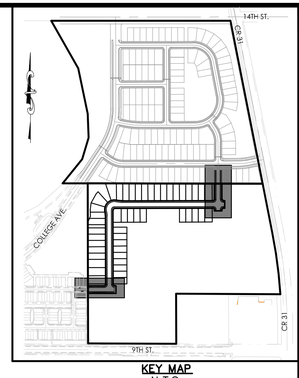
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ALTO ST.



ROMA AVE.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft.

NOTES:

1. ALL IRRIGATION MAINS LINES SHALL BE PVC C900 PURPLE PIPE.

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
ALTO ST. & ROMA AVE.

DATE 2/8/2022

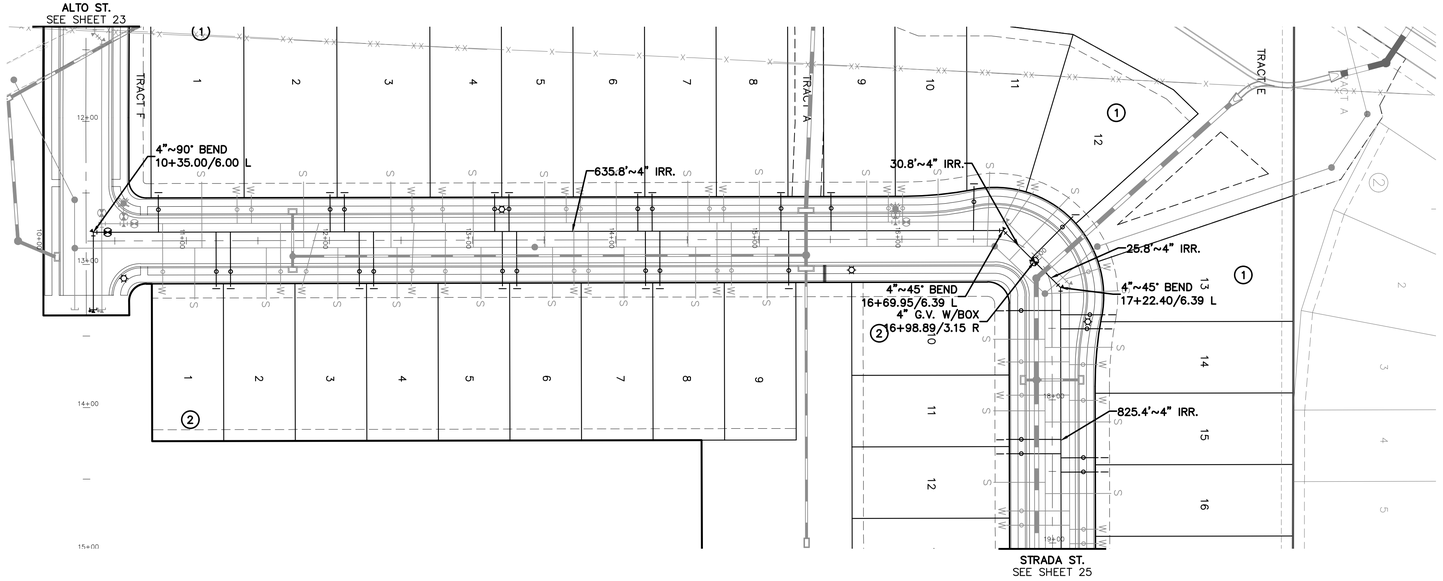
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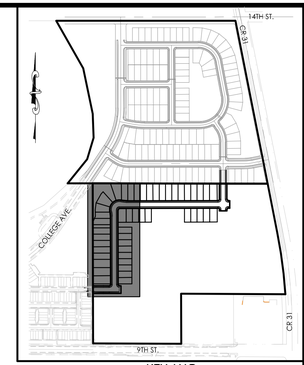
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P.M. DJR
JOB 21002209
SHEET NO. 23

CAD FILE: 21002209-F8-RAVENNA-IRR.DWG

I:\21002209\DOCS\IRR DESIGN\DRAWINGS\21002209-F8-RAVENNA-IRR.DWG 2/8/2022 7:31 PM EASTERN DAYLIGHT TIME



CUPA AVE.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
CUPA AVE.

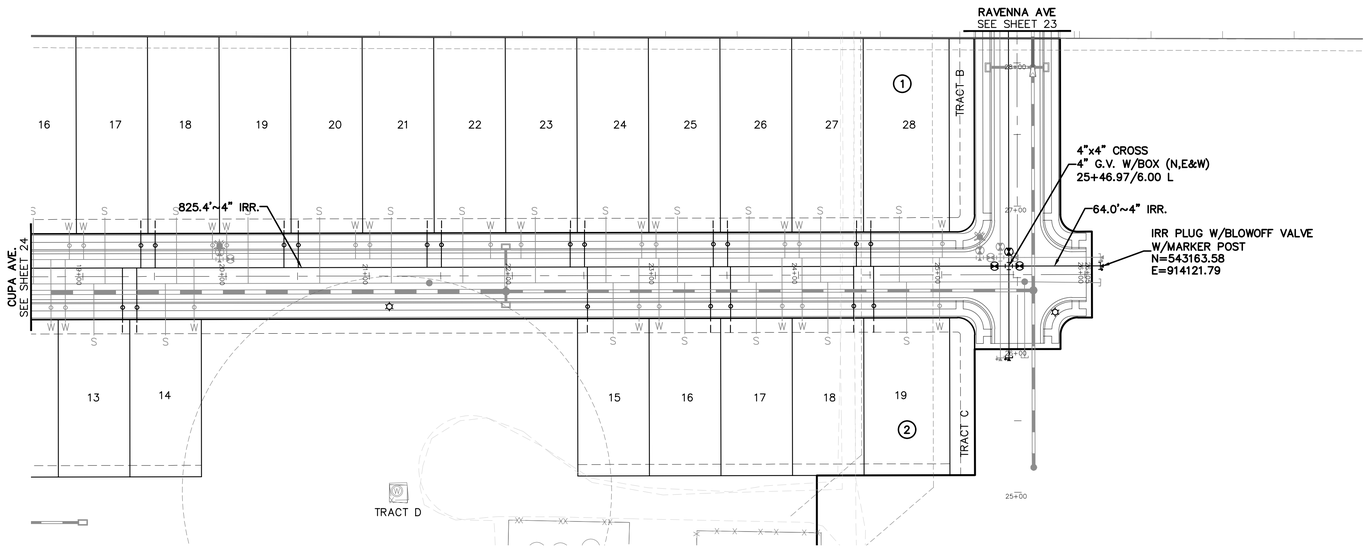
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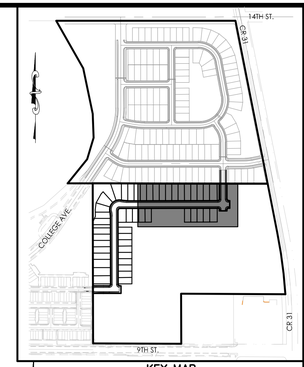
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JOB 21002209
SHEET NO. 24

CAD FILE: 21002209-18-STREET A-IRR.DWG



STRADA ST.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

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PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
STRADA ST.

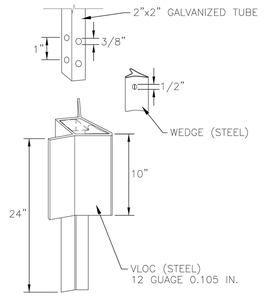
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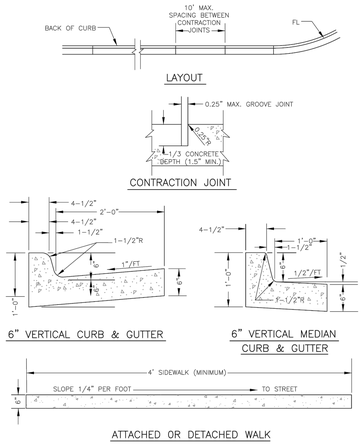
PLANS UNDER REVIEW
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JOB 21002209
SHEET NO. 25

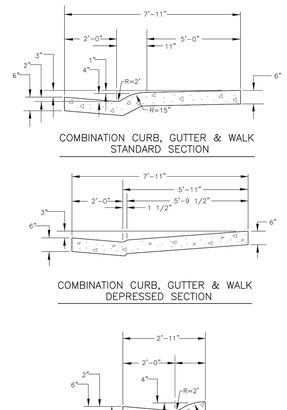
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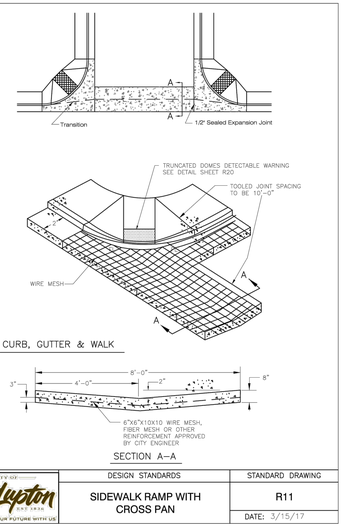
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TYPICAL SIGN POST ANCHOR DETAIL	T2
	DATE: 8/15/14



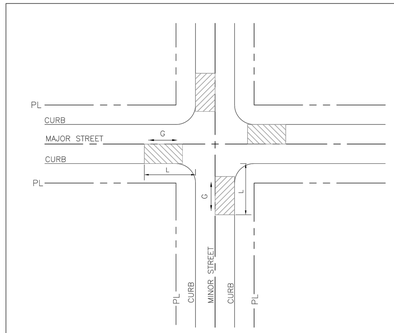
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VERTICAL CURB AND GUTTER	R7
	DATE: 8/15/14



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COMBINATION CURB, GUTTER, AND WALK	R8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
SIDEWALK RAMP WITH CROSS PAN	R11
	DATE: 3/15/17



MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

DESIGN STANDARDS	STANDARD DRAWING
MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL SIGN POST ANCHOR DETAIL	T2
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
STREET DETAILS

DATE 2/8/2022

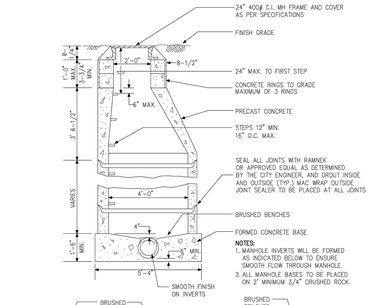
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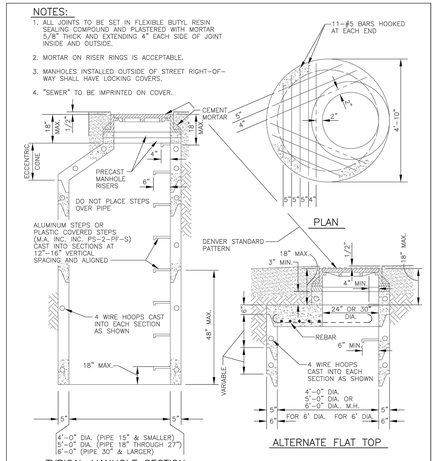
DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 26

CAD FILE: 21002209-18-STREET DETAILS.DWG

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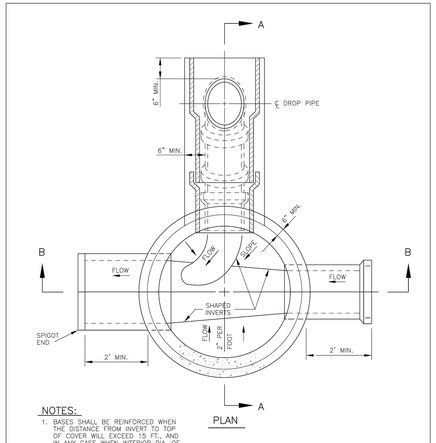


DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14

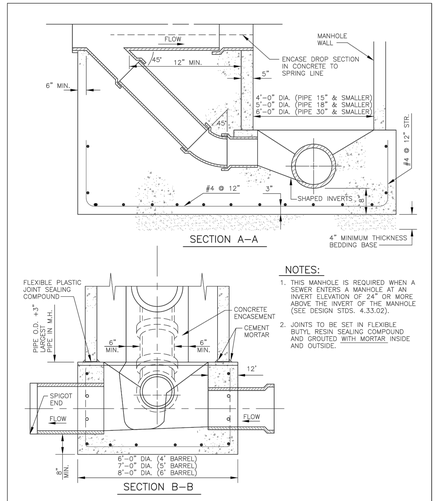


TYPICAL MANHOLE SECTION WITH ECCENTRIC CONE

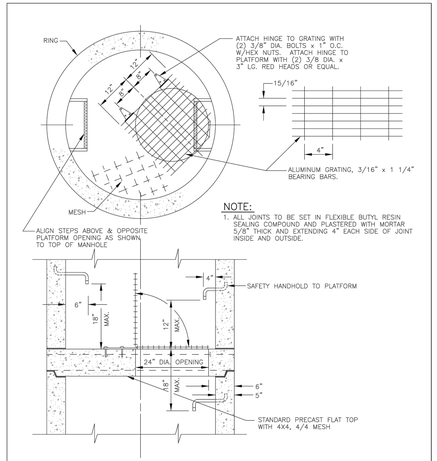
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MANHOLE BARRELS AND ALTERNATE TOPS	SS2
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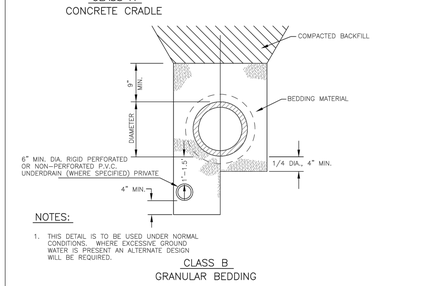
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	DATE: 8/15/14



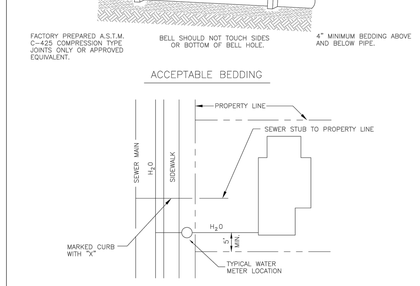
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DROP MANHOLE DETAIL	SS4
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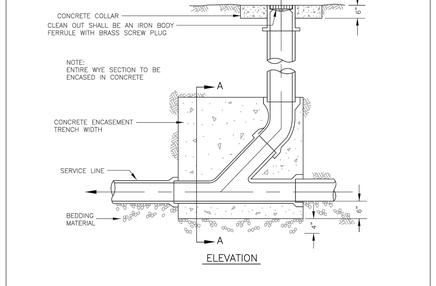
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INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14



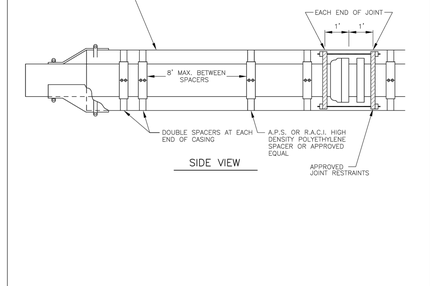
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TYPICAL PIPE BEDDING	SS6
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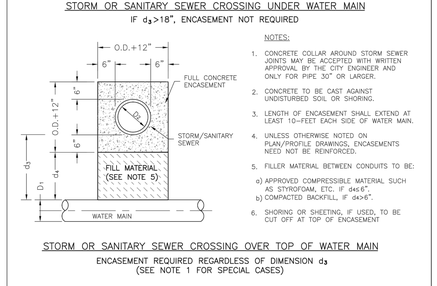
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TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
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FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
SANITARY DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

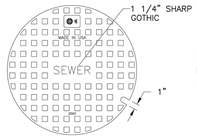
HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

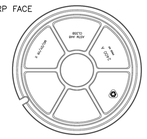
VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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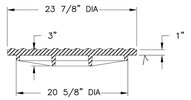
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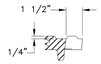




COVER BACK



SECTION



PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Gray Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

Certification
- ASTM A48
-Country of Origin USA

CITY OF Fort Lupton COLORADO
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DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER MANHOLE LID	SS12
	DATE: 5/04/2017

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
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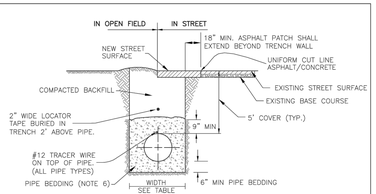
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TYPICAL TRENCH SECTION

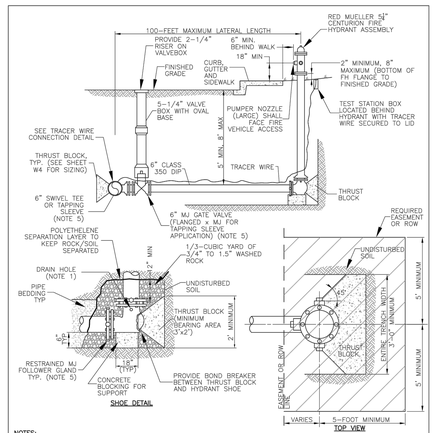
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM. HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

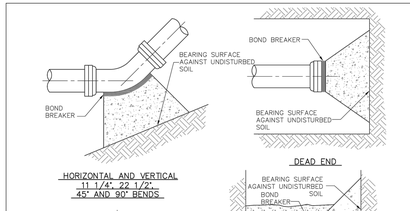
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



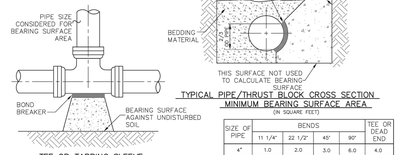
NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS



TEE OR TAPPING SLEEVE

DEAD END

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

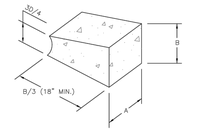
MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-5"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

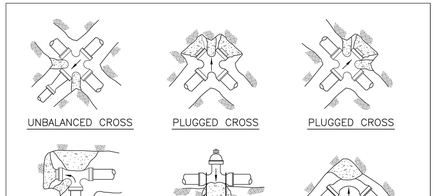
GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).



NOT TO SCALE

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE.
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT SHALL BE DI. FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE RESTRICTED TO BENDS, TEES AND VALVES.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER STRAINERS SHALL BE INSTALLED ON THE INLET SIDE OF THE METER. ALL STRAINERS SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. NOTE: VAULT SHALL BE GROUNDED BY CONNECTING TO THE WATER SYSTEM.
14. NOTE: VAULT ROOFING, WALLS AND FLOOR PLATES MUST BE MANUFACTURED OF STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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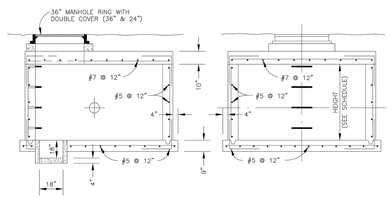
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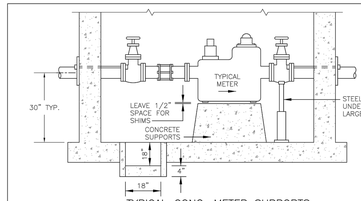


SECTION A–A SECTION B–B

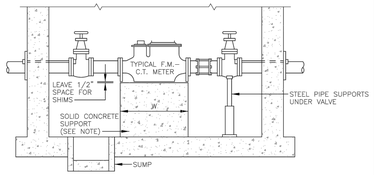
METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL METER VAULT	W12
	DATE: 8/15/14



TYPICAL CONC. METER SUPPORTS FOR 3", 4", 6", 8", & 10" METERS

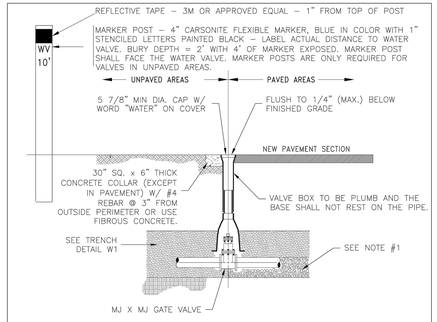


TYPICAL CONC. METER SUPPORT FOR F.M.–M.C.T. OR TURBINE

NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

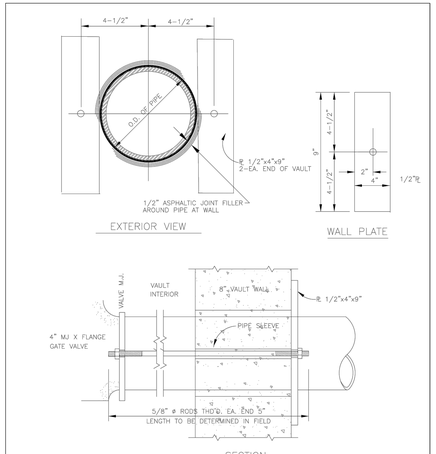
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CONCRETE METER SUPPORTS	W13
	DATE: 8/15/14

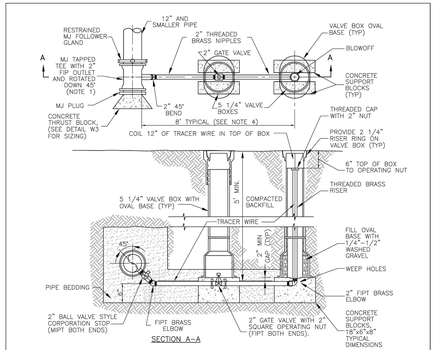


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14

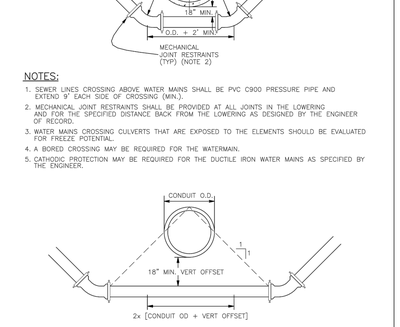


DESIGN STANDARDS	STANDARD DRAWING
WALL CLAMP	W15
	DATE: 8/15/14



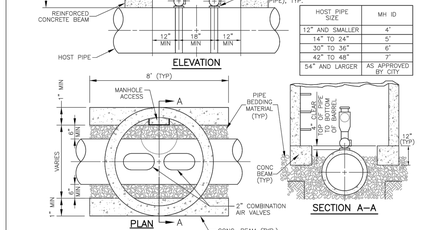
NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE FLANGE. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPING.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING THRUST BLOCKS.

DESIGN STANDARDS	STANDARD DRAWING
STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
	DATE: 8/15/14



NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.

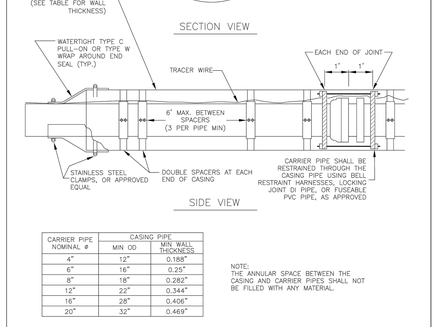
DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14



HOST PIPE SIZE	MH ID
12" AND SMALLER	4'
14" TO 24"	5'
30" TO 36"	6'
42" TO 48"	7'
54" AND LARGER	AS APPROVED BY CITY

NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

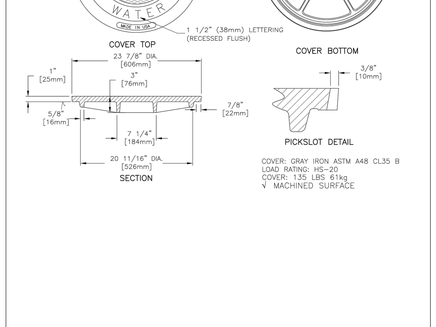
DESIGN STANDARDS	STANDARD DRAWING
COMBINATION AIR VALVE INSTALLATION	W19
	DATE: 8/15/14



CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

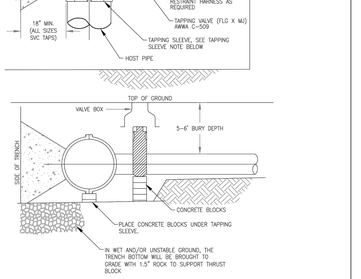
NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
BORING DETAIL	W22
	DATE: 8/15/14



COVER: GRAY IRON ASTM A48 CL35 B
LOAD RATING: HS–20
COVER: 135 LBS. 61kg
√ MACHINED SURFACE

DESIGN STANDARDS	STANDARD DRAWING
WATER VAULT LID	W24
	DATE: 8/15/14



NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

DESIGN STANDARDS	STANDARD DRAWING
WET TAP CONNECTION - 4" AND LARGER TAP	W25
	DATE: 8/15/14

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LAKEWOOD, CO 80228
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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

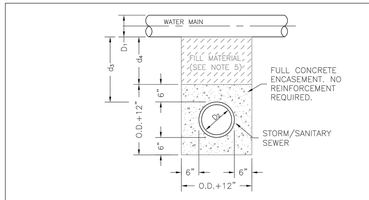
BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

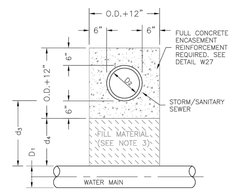
DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 30

CAD FILE: 21002209–8–WATER DETAILS.DWG



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

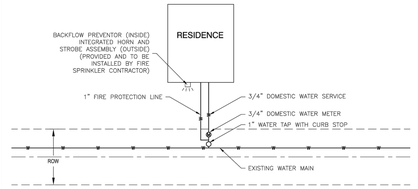
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d4≤6". COMPACTED BACKFILL, IF d4>6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ENCASEMENT FOR CONDUIT CROSSING	W26
		DATE: 8/15/14

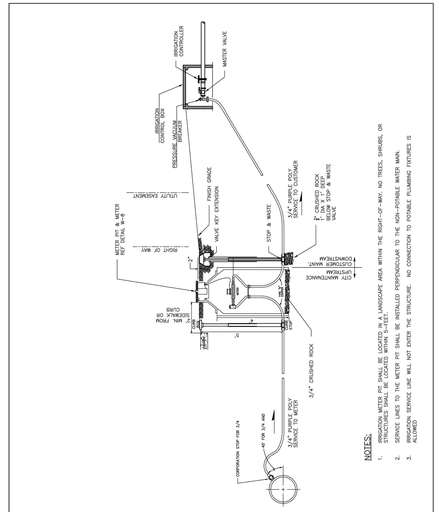
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SINGLE WATER TAP FOR FIRE LINE	W29
		DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-ROTABLE WATER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	3/4" & 1" IRRIGATION METER SETS	W30
		DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

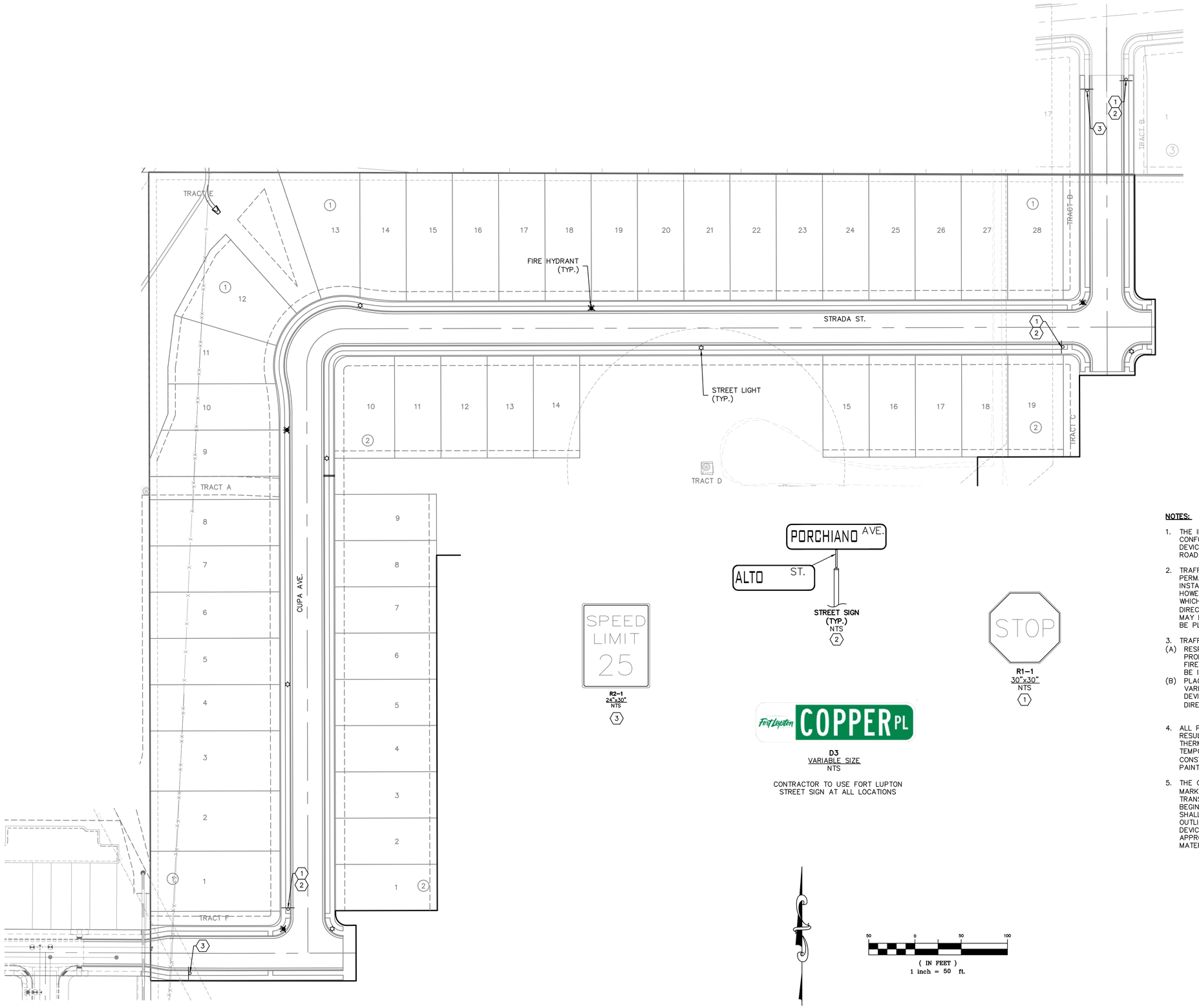
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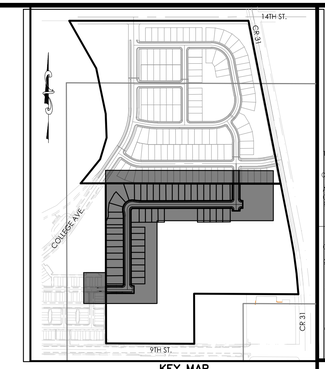
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 31

CAD FILE: 21002209-18-WATER DETAILS.DWG

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KEY MAP
N.T.S.

STREET SIGN
(TYP.)
NTS
2

R2-1
24"x30"
NTS
3

R1-1
30"x30"
NTS
1

D3
VARIABLE SIZE
NTS

CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS

NOTES:

1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.

3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
(A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
(B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.

4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.

5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.

(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 8
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 32

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COTTONWOOD GREENS FILING NO. 9

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 9 CONSTRUCTION PLANS

LEGAL DESCRIPTION:

COTTONWOOD GREENS PUD FILING NO. 9

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 67°07'51" EAST 1137.10 FEET TO THE WEST LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, ALSO BEING THE SOUTHWEST CORNER OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°59'48" EAST 222.00 FEET;
2. NORTH 00°07'09" WEST 60.00 FEET;
3. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
4. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
5. NORTH 00°07'09" WEST 3.84 FEET;
6. NORTH 89°52'51" EAST 110.00 FEET;
7. NORTH 00°07'09" WEST 383.92 FEET;
8. NORTH 89°52'51" EAST 584.88 FEET;
9. NORTH 00°07'09" WEST 105.00 FEET;
10. NORTH 89°52'51" EAST 110.51 FEET;
11. NORTH 00°07'09" WEST 88.00 FEET;
12. NORTH 89°52'51" EAST 60.00 FEET;

THENCE DEPARTING SAID SOUTHERLY LINE SOUTH 00°07'09" EAST 222.76 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37";

THENCE SOUTH 60°12'00" EAST 27.33 FEET;

THENCE SOUTH 29°48'00" WEST 60.00 FEET;

THENCE NORTH 60°12'00" WEST 27.25 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04";

THENCE SOUTH 42°57'02" EAST 107.80 FEET;

THENCE SOUTH 00°17'38" WEST 40.73 FEET TO THE BOUNDARY LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS;

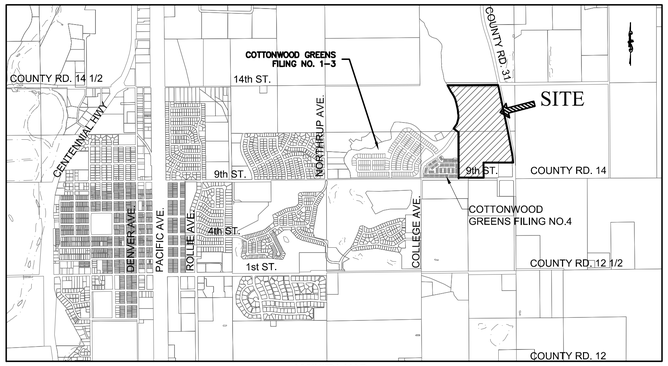
THENCE ALONG SAID BOUNDARY LINE AND ALONG THE NORTH AND WEST LINES OF SAID PARCEL OF LAND THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 301.01 FEET;
2. SOUTH 00°09'48" EAST 398.65 FEET TO THE SOUTH LINE OF SAID TRACT OF LAND;

THENCE ALONG SAID SOUTH LINE NORTH 89°42'22" WEST 699.60 FEET TO THE SOUTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG THE WEST LINE OF SAID CONNER FAMILY TRUST AND ALONG SAID EAST LINE NORTH 00°08'34" WEST 397.30 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 636,491 SQUARE FEET, OR 14.61 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=2,000'

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RESIDENTIAL DESIGN STANDARDS VARIANCES

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

CITY ENGINEER'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

MAYOR'S CERTIFICATE:
THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ___ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

OWNER:
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACARTHER BLVD., SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

CIVIL ENGINEER:
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

SURVEYOR:
ATWELL, LLC.
143 UNION BLVD., SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

CITY OF FORT LUPTON:
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

XCEL ENERGY(GAS):
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

UNITED POWER (ELEC):
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

CENTURYLINK (FIBER OPTIC):
5324 WADSWORTH BYP., SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ DATE
DANIEL J. RODRIGUEZ, P.E.
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
COTTONWOOD DEVELOPMENT PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-19-COVER SHEET.DWG

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WTH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.
3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.
4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.
6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.
7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.
9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.
10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.
11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.
13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.
14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.
18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

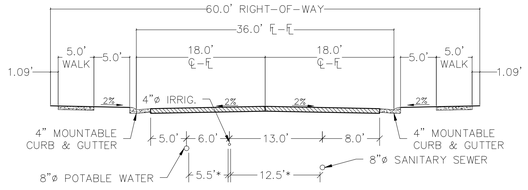
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

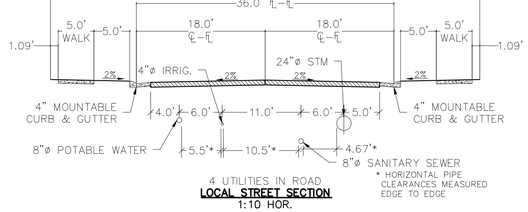
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- SS EXISTING SANITARY
- S PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- W W EXISTING WATER
- W PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- IRR IRR EXISTING IRRIGATION LINE
- GAS EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- OHE EXISTING OVERHEAD ELECTRICAL
- EXISTING ELECTRICAL
- CATV EXISTING CABLE TV
- FO FO FO EXISTING FIBER OPTIC CABLE
- X X EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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SUITE 250
NEWPORT BEACH, CA 92660
303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

DATE 2/8/2022

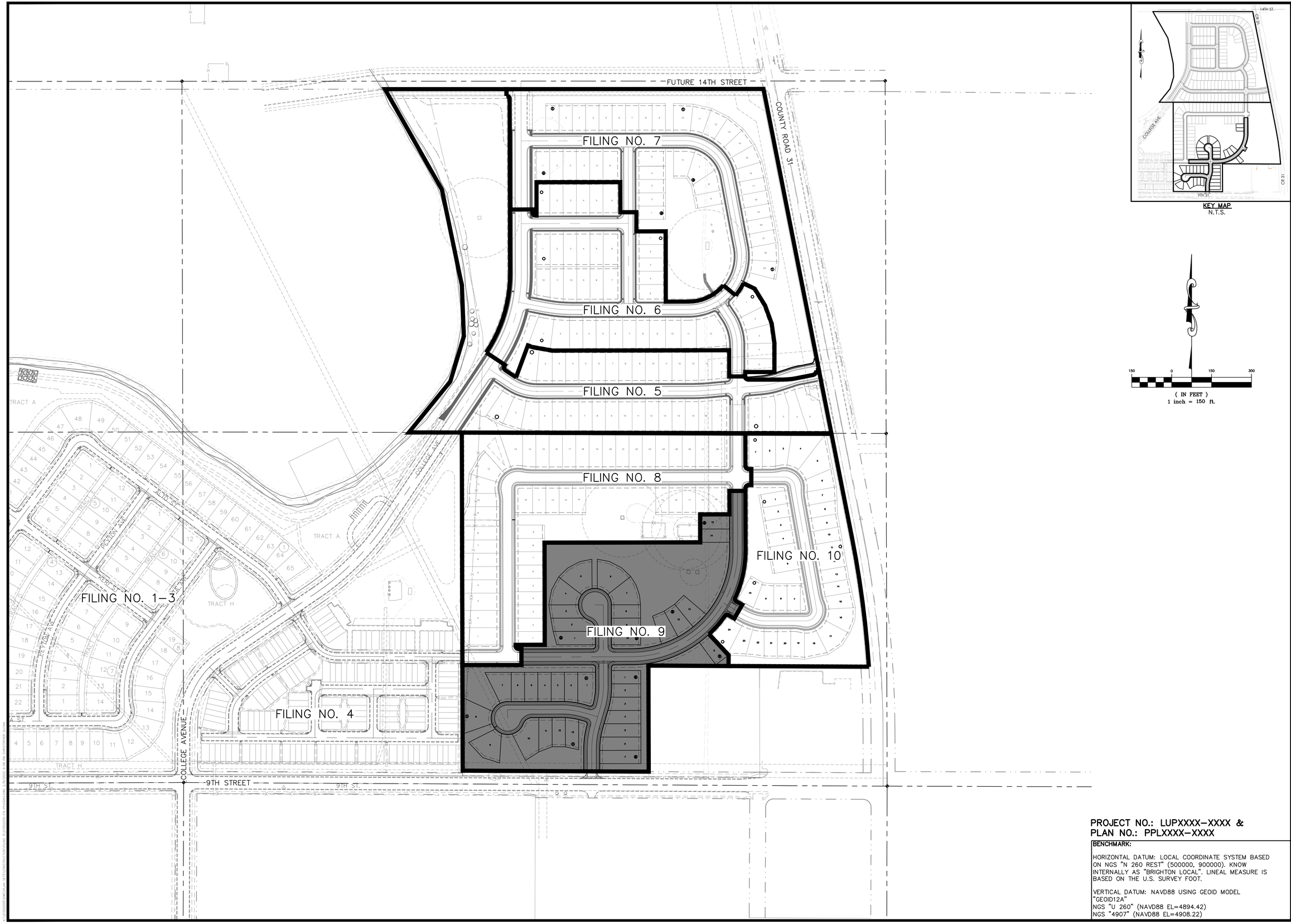
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209-F9-COVER SHEETDWG

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KEY MAP
N.T.S.

(IN FEET)
1 inch = 150 ft.

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LAKEWOOD, CO 80228
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4040 MacARTHUR BLVD.
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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

DATE: 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

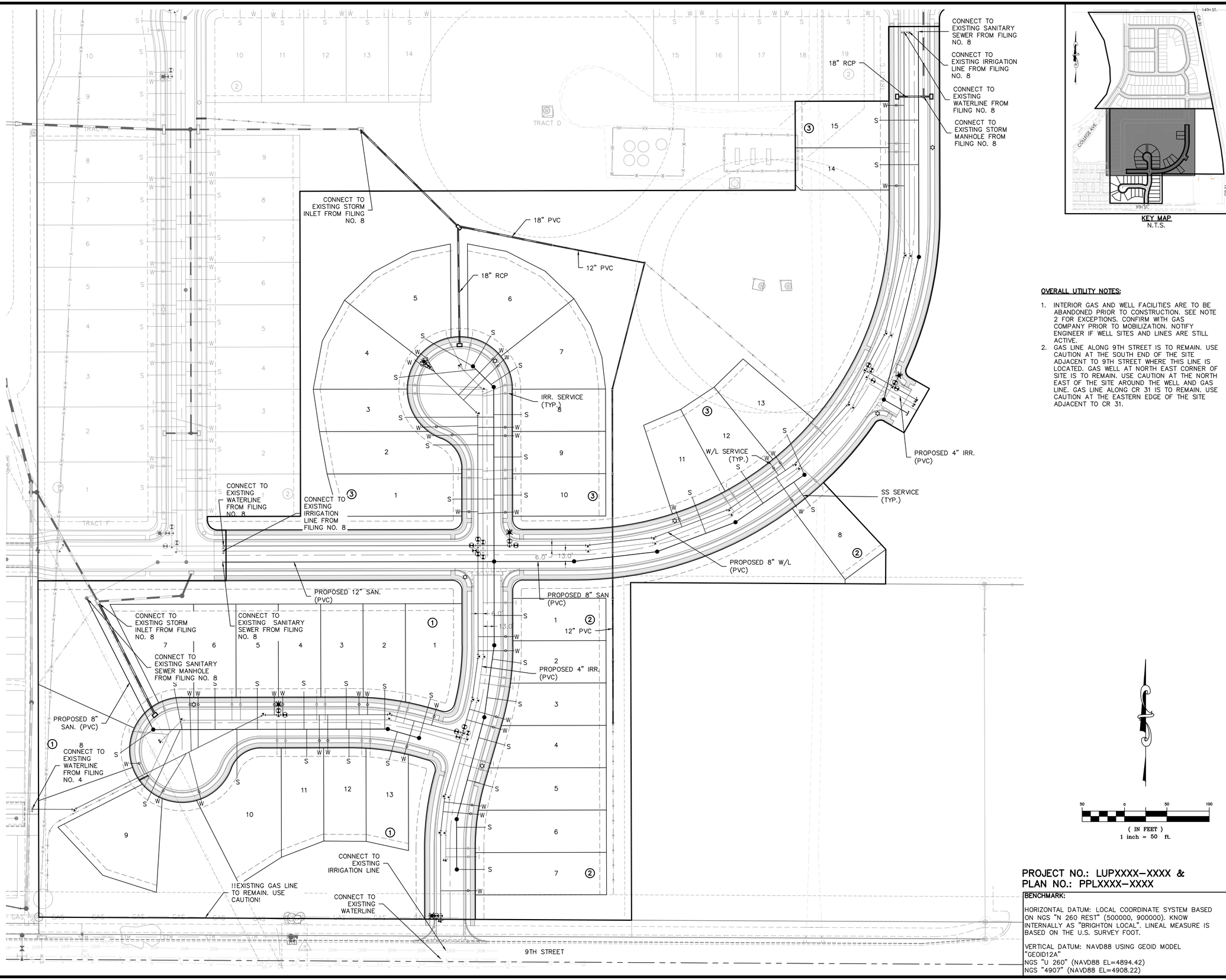
BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 3

CAD FILE: 21002209-9-PHASING.DWG



KEY MAP
N.T.S.

OVERALL UTILITY NOTES:

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2. GAS LINE ALONG 9TH STREET IS TO REMAIN. USE CAUTION AT THE SOUTH END OF THE SITE ADJACENT TO 9TH STREET WHERE THIS LINE IS LOCATED. GAS WELL AT NORTH EAST CORNER OF SITE IS TO REMAIN. USE CAUTION AT THE NORTH EAST OF THE SITE AROUND THE WELL AND GAS LINE. GAS LINE ALONG CR 31 IS TO REMAIN. USE CAUTION AT THE EASTERN EDGE OF THE SITE ADJACENT TO CR 31.

(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

OVERALL UTILITY

DATE 2/8/2022

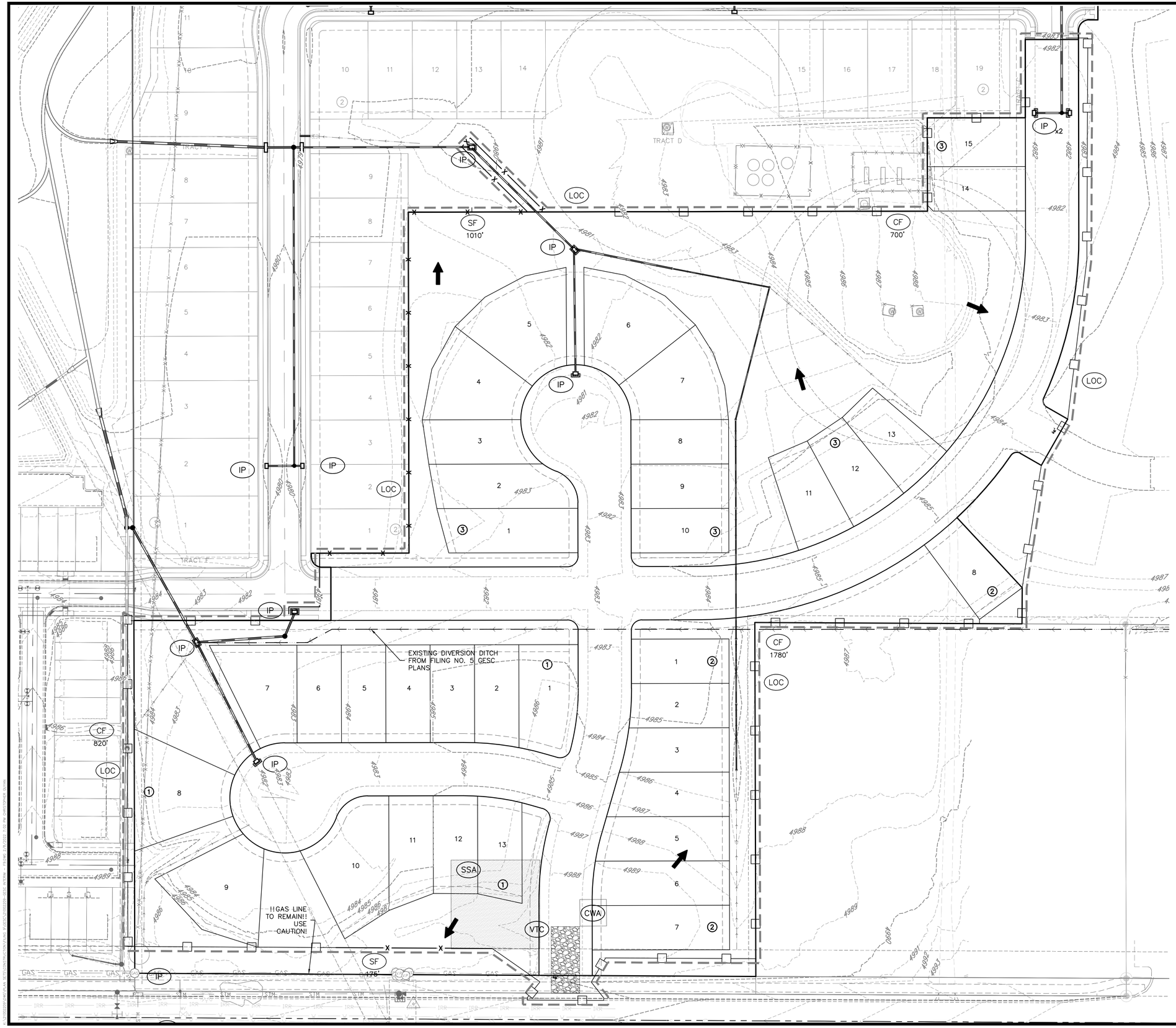
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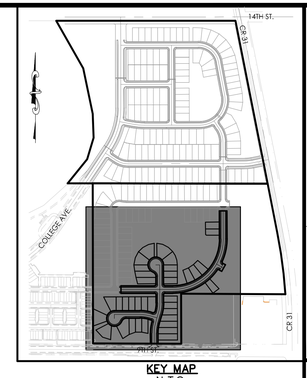
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-99-OVERALL UTILITY.DWG

DESCRIPTION AND REPRESENTATION PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY. NOT FOR CONSTRUCTION.





KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

1. SEE FILING NO. 5 GESC FOR EXISTING PERIMETER CONTROLS AND OTHER GESC MEASURES THAT REMAIN ON THE SITE AT THE START OF CONSTRUCTION OF THIS FILING. THE EXISTING FILING NO. 5 GESC IS THE INITIAL PHASE.
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GRADING AND EROSION CONTROL LEGEND

- SF — SILT FENCE
- IP — INLET PROTECTION
- RRC — CULVERT PROTECTION
- VTC — VEHICLE TRACKING CONTROL
- CWA — CONCRETE WASHOUT AREA
- SSA — STABILIZED STAGING AREA
- SM — SEEDING AND MULCHING
- LOC — LIMITS OF CONSTRUCTION
- CF — CONSTRUCTION FENCE
- DD — DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC INTERIM

DATE 2/8/2022

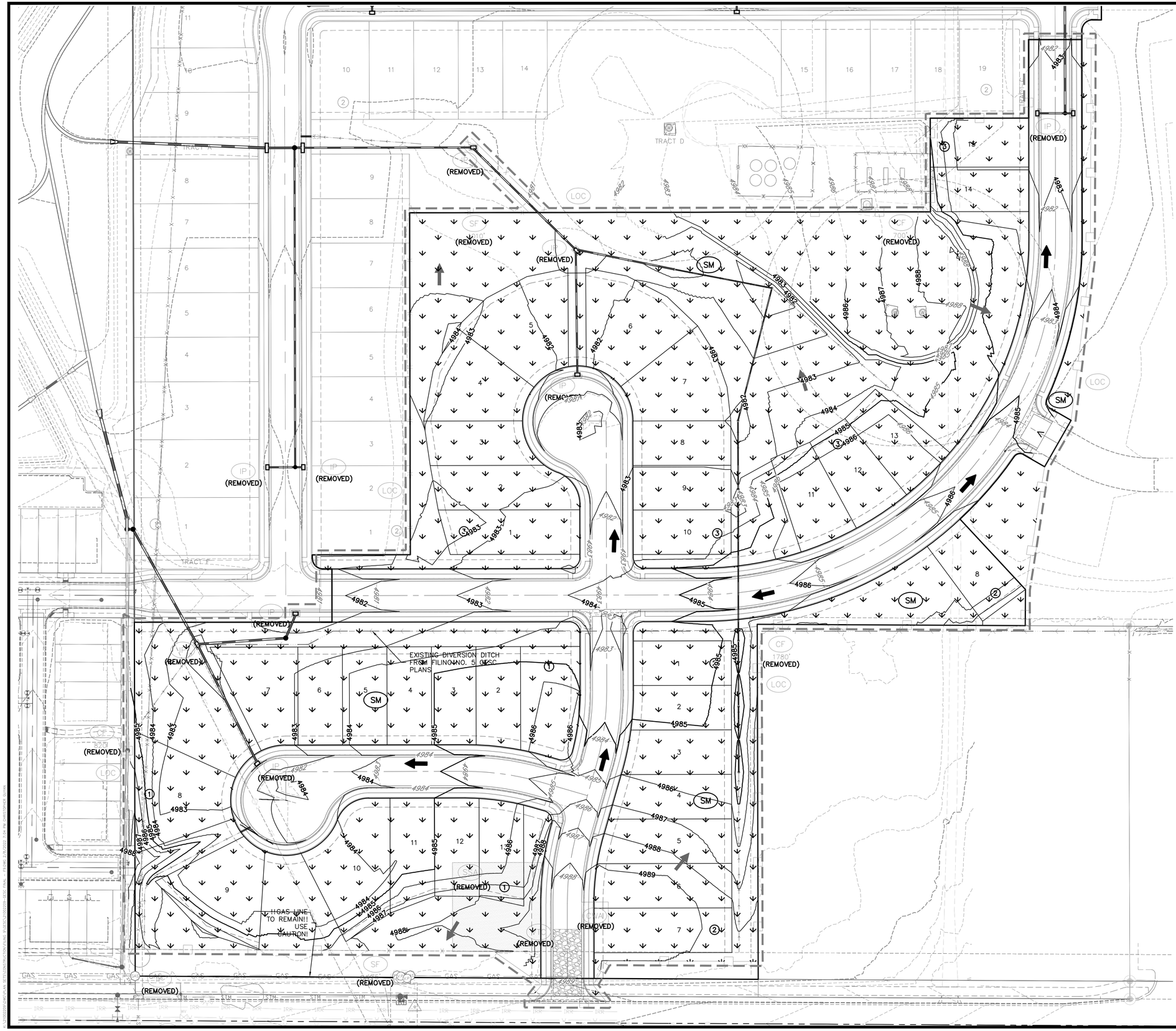
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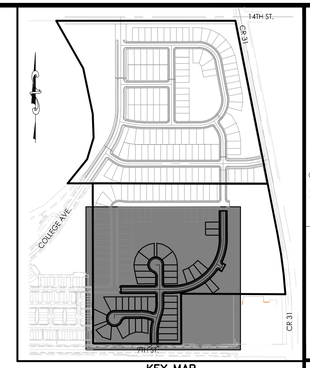
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P.M. DJR
JOB 21002209
SHEET NO. 5

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KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

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PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 6

CAD FILE: 21002209-GESC FINAL - F9.DWG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

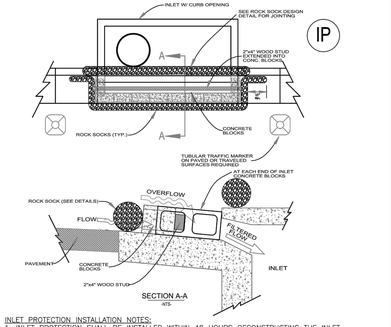
TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14

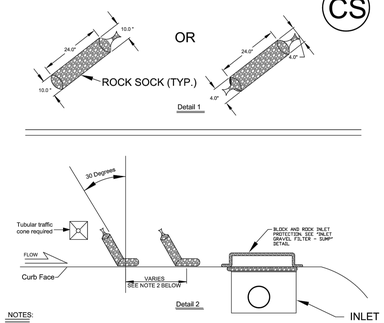
IP



INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

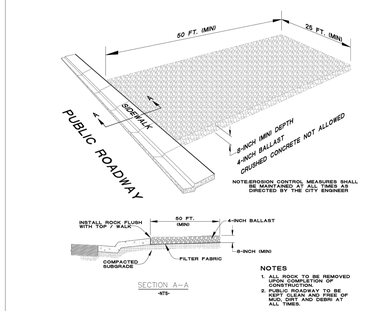
DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14

CS



NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE. SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

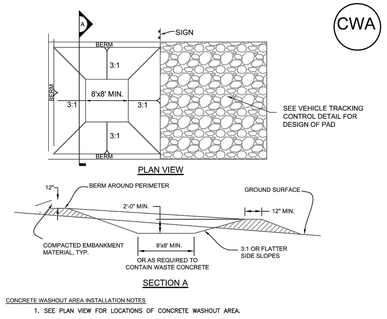
DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14

CWA



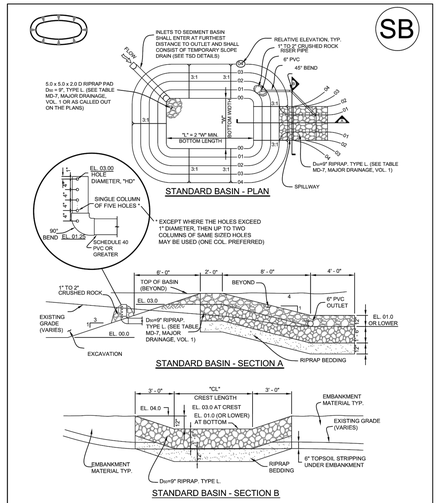
SECTION A

CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TROUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14

SB



DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT BASIN DETAILS	EC 11
	DATE: 8/15/14

SB

SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	9/32
2	21	3	13/16
3	28	5	1/2
4	33 1/2	6	9/16
5	38 1/2	8	21/32
6	43	9	21/32
7	47 1/4	11	25/32
8	51	12	27/32
9	55	13	7/8
10	58 1/4	15	15/16
11	61	16	31/32
12	64	18	1
13	67 1/2	19	1 1/16
14	70 1/2	21	1 1/8
15	73 1/4	22	1 3/16

Minimum Bottom Width and diameter of outlet plate holes based on 2,700 cu. ft. / acre of tributary area and 72 hour drain time.

SEDIMENT BASIN INSTALLATION NOTES
1. SEE PLAN VIEW AND SECTIONS FOR:
   - LOCATION OF SEDIMENT BASIN
   - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN),
   - FOR STANDARD BASIN, BOTTOM WIDTH, "W", CREST LENGTH, "CL", AND HOLE DIAMETER, "HD".
   - FOR NONSTANDARD BASIN, SEE THE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT, "H", NUMBER OF COLUMNS, "N", HOLE DIAMETER, "HD", AND PIPE DIAMETER "D".
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D 698.
6. PIPE SCH 40 OR GREATER SHALL BE USED.
7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) IDENTIFIED ON THE SWMP PLAN VIEW DRAWINGS USED FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SEDIMENT BASIN MAINTENANCE NOTES
1. THE SWMP MANAGER SHALL INPSECT SEDIMENT BASIN WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED WHEN SEDIMENT DEPTH IS ONE FOOT (I.E., 2-FEET BELOW THE SPILLWAY CREST).
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY.
4. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT BASIN SIZING & NOTES	EC 12
	DATE: 8/15/14

811
Know what's below. Call before you dig.
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.
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866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO
GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

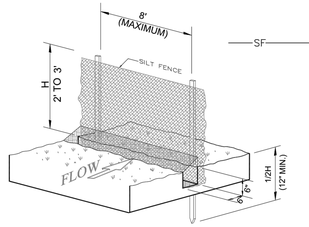
DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 7

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:
HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

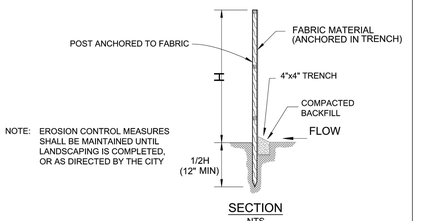
VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

CAD FILE: 21002209-GESC DETAILS.DWG
I:\2021\21002209\CAD\PLANSHEETS\21002209 GESC DETAILS.DWG



SILT FENCE INSTALLATION

-NTS-



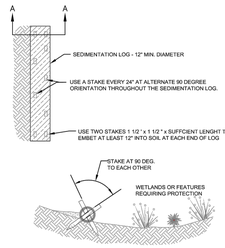
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SILT FENCE	EC 15
		DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

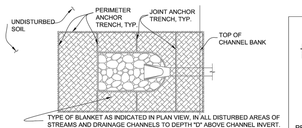
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

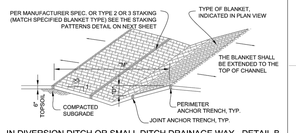
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SEDIMENT CONTROL LOGS	EC 16
		DATE: 8/15/14

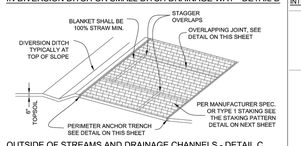
ECB



AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

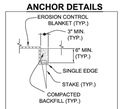


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B

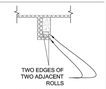


OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

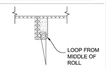
ANCHOR DETAILS



PERIMETER ANCHOR TRENCH



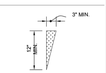
JOINT ANCHOR TRENCH



INTERMEDIATE ANCHOR TRENCH



OVERLAPPING JOINT

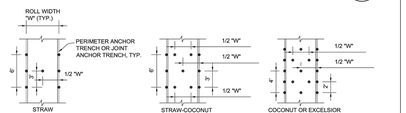


WOOD STAKE DETAIL

MINIMUM ACCEPTABLE USE 2x4 MATERIAL FOR STAKES

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET DETAILS	EC 17
		DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

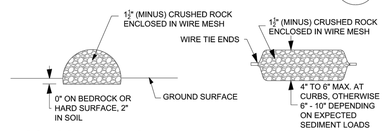
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

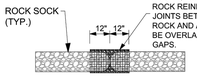
CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
		DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	ROCK SOCK DETAIL	EC 19
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

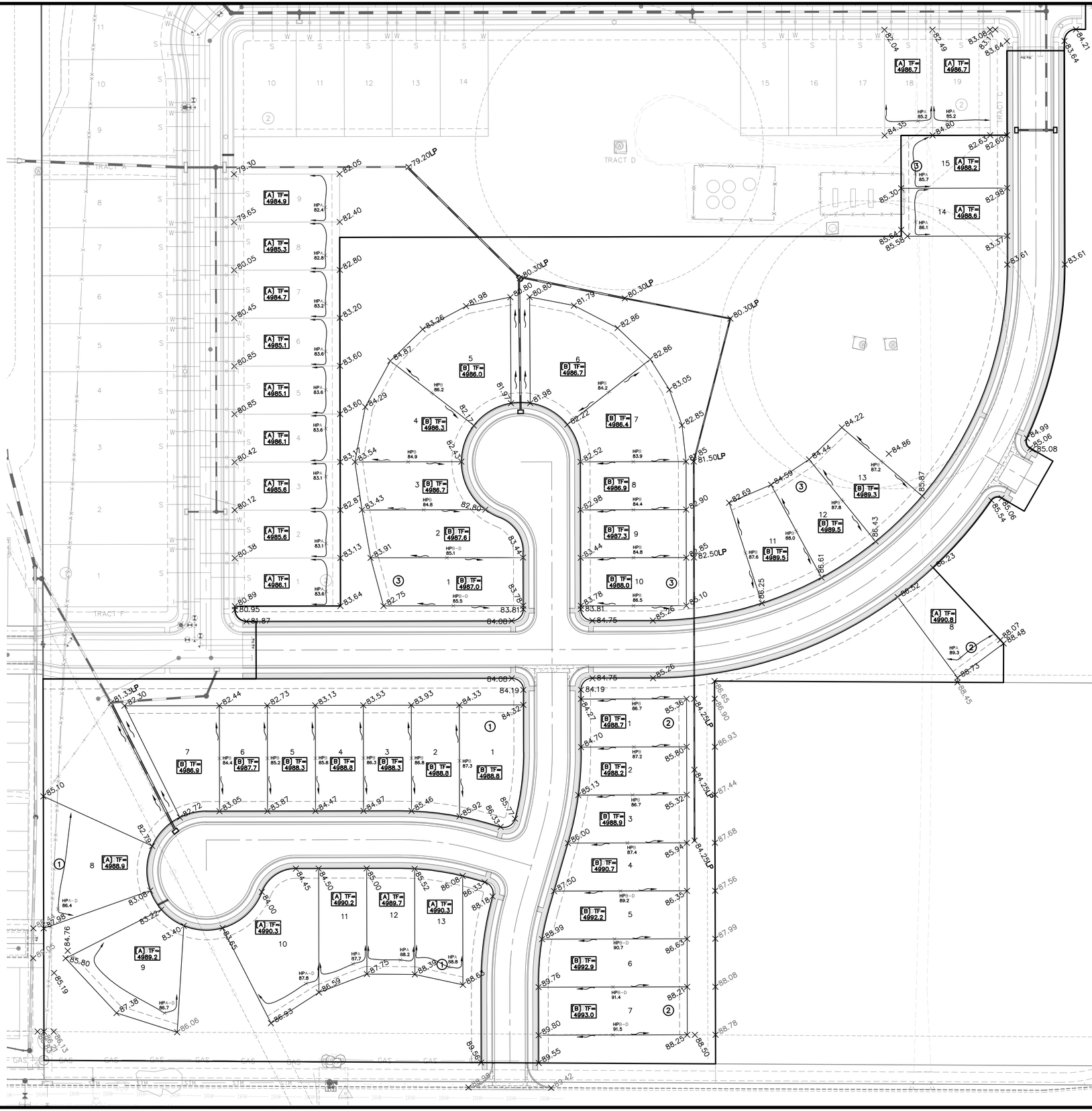
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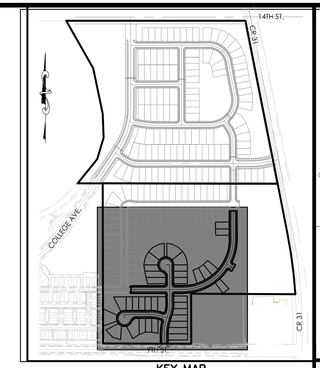
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 8

CAD FILE: 21002209-GESC DETAILS.DWG

I:\2021\21002209\CAD\Construction Documents\GESC\21002209-GESC DETAILS.DWG, 2/8/2022 7:30:16 AM, Matthew Brown





KEY MAP
N.T.S.

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NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

DATE 2/8/2022

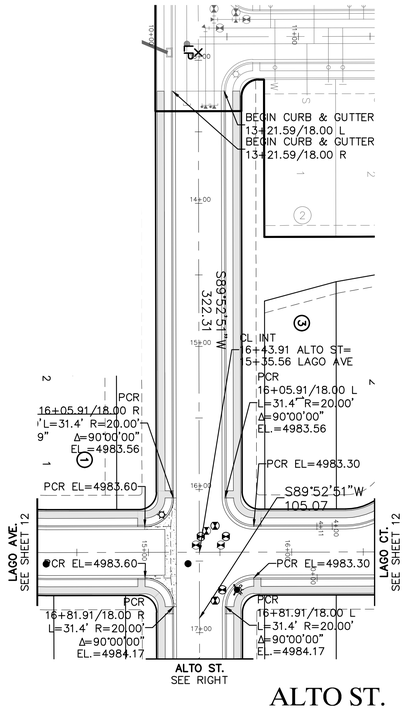
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

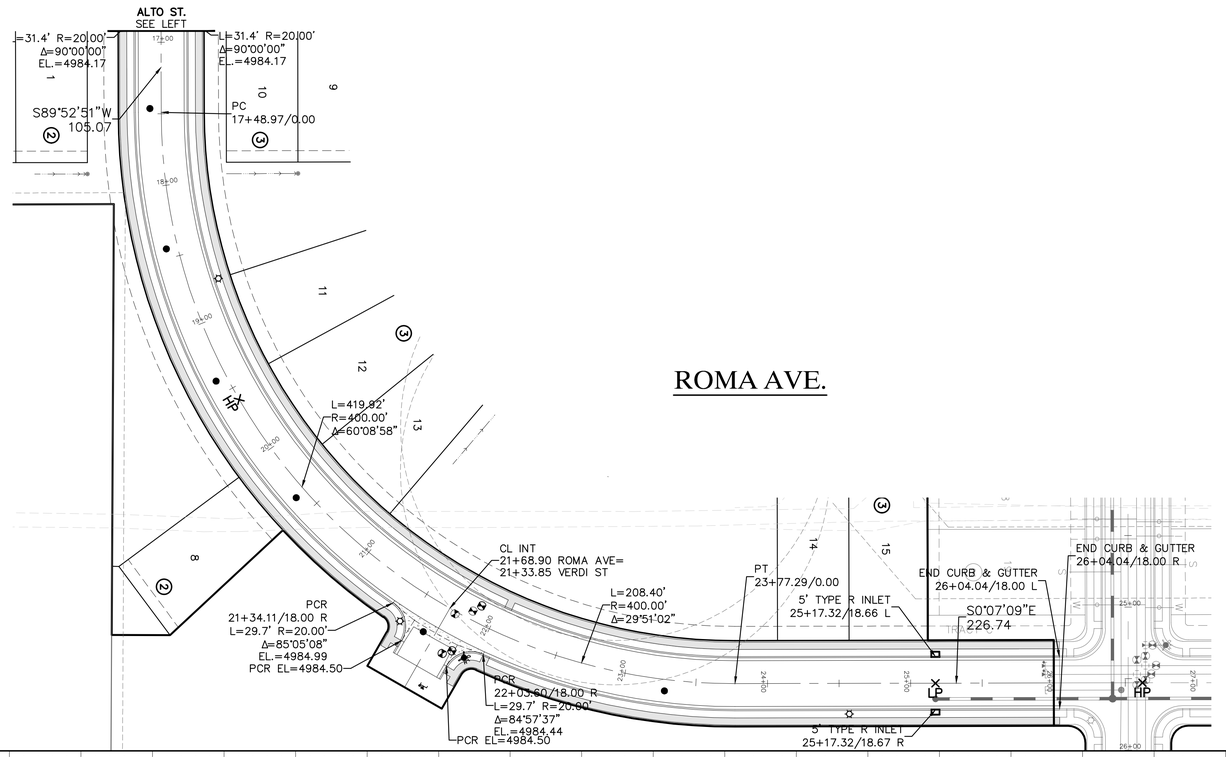
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P.M. DJR	
JOB 21002209	
SHEET NO. 31	

CAD FILE: 21002209-F9-DETAIL GRADING.DWG

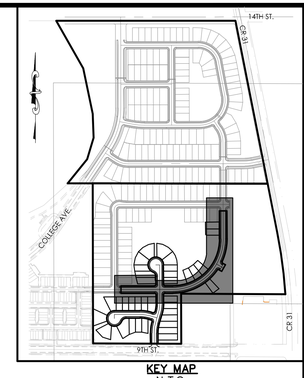
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ALTO ST.



ROMA AVE.



KEY MAP
N.T.S.

50 0 50 100

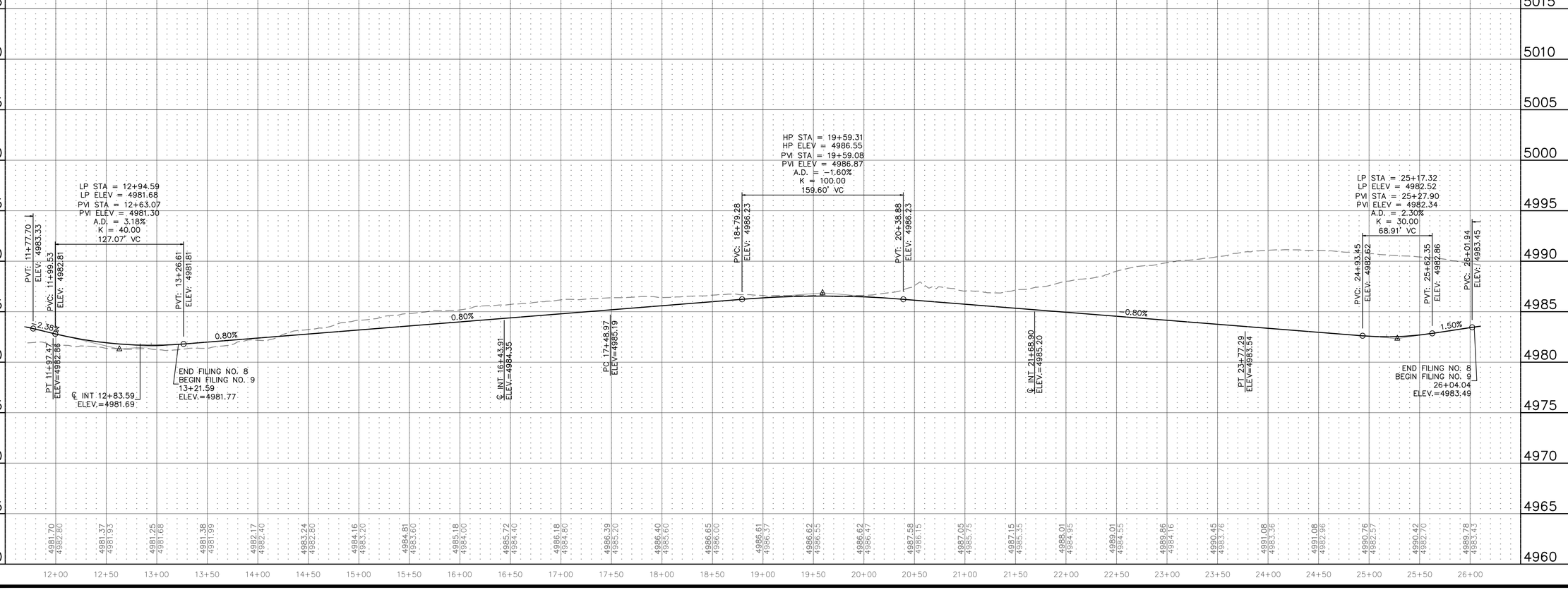
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
ALTO ST. & ROMA AVE.

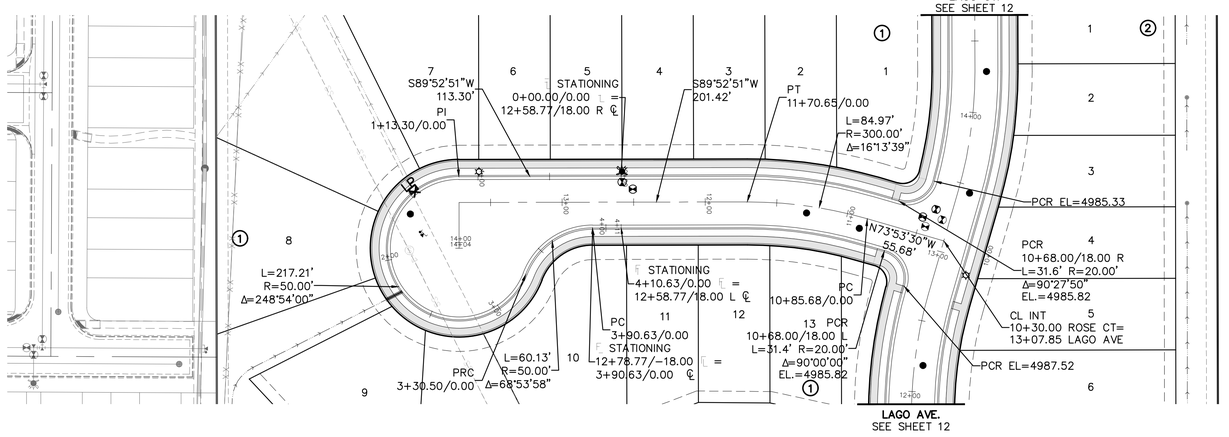
DATE 2/8/2022

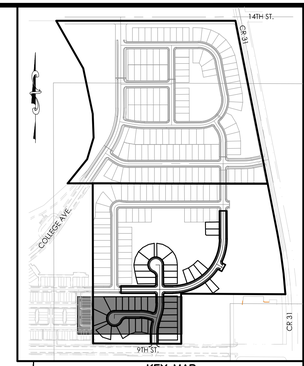
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 10

CAD FILE: 21002269-F9-RAVENNA AND STREET C.DWG





KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

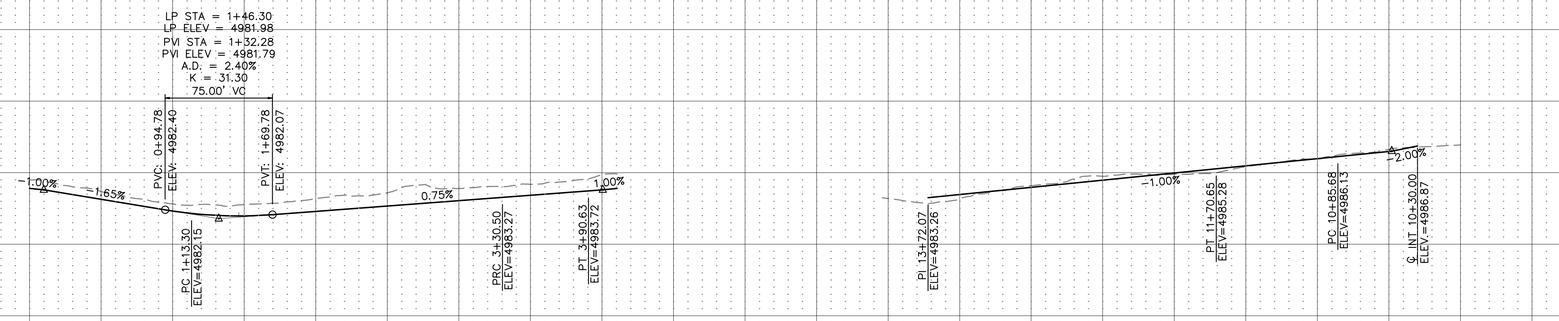
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NGS "4907" (NAVD88 EL=4908.22)

ROSE CT.

ROSE CT.
CUL-DE-SAC



5015 5010 5005 5000 4995 4990 4985 4980 4975 4970 4965 4960

4984.49 4983.90 | 4983.69 4983.14 | 4982.82 4982.32 | 4982.78 4981.98 | 4983.20 4982.30 | 4983.60 4982.67 | 4983.89 4983.05 | 4984.20 4983.42 | 4984.87 4983.80 | 4983.20 | 4983.15 4983.48 | 4984.09 4983.98 | 4984.75 4984.48 | 4984.89 4984.98 | 4985.43 4985.48 | 4985.96 4985.98 | 4986.63 4986.49 | 4986.94

−0+50 0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 15+00 14+50 14+00 13+50 13+00 12+50 12+00 11+50 11+00 10+50 10+00 9+50

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
ROSE CT.

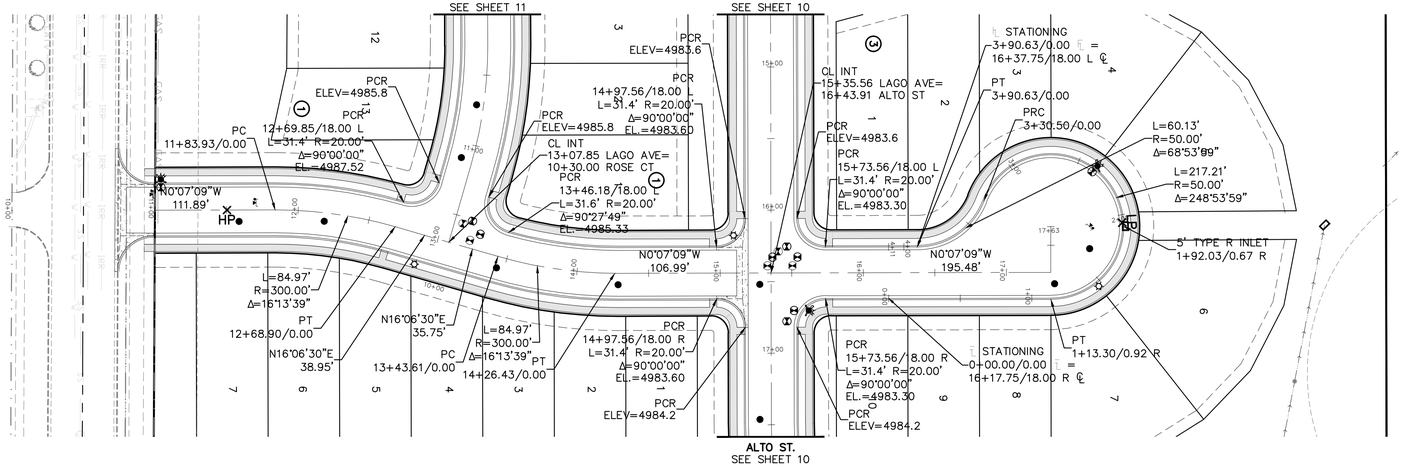
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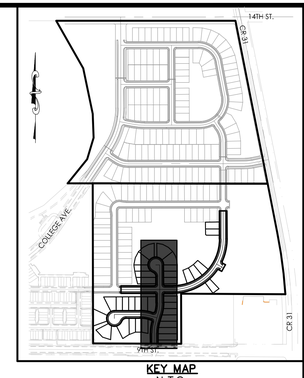
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 11

CAD FILE: 2100209-F9-RAVENNA AND STREET C.DWG





KEY MAP
N.T.S.

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(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

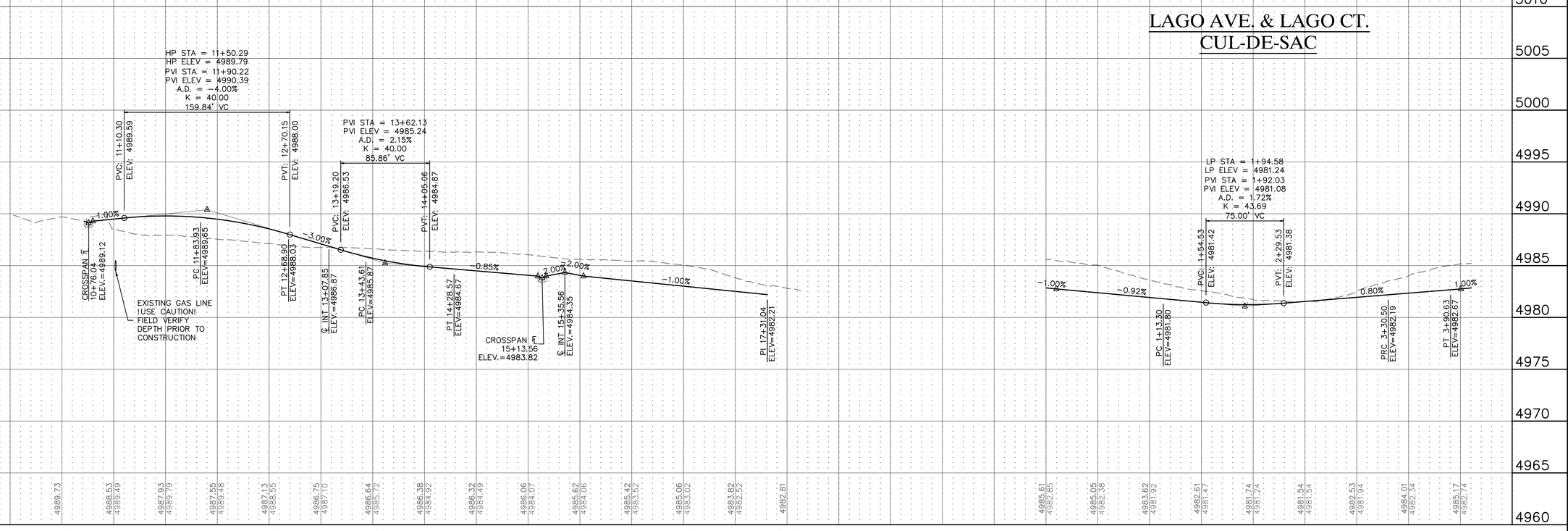
PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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LAGO AVE. & LAGO CT.



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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
LAGO AVE. & LAGO CT.

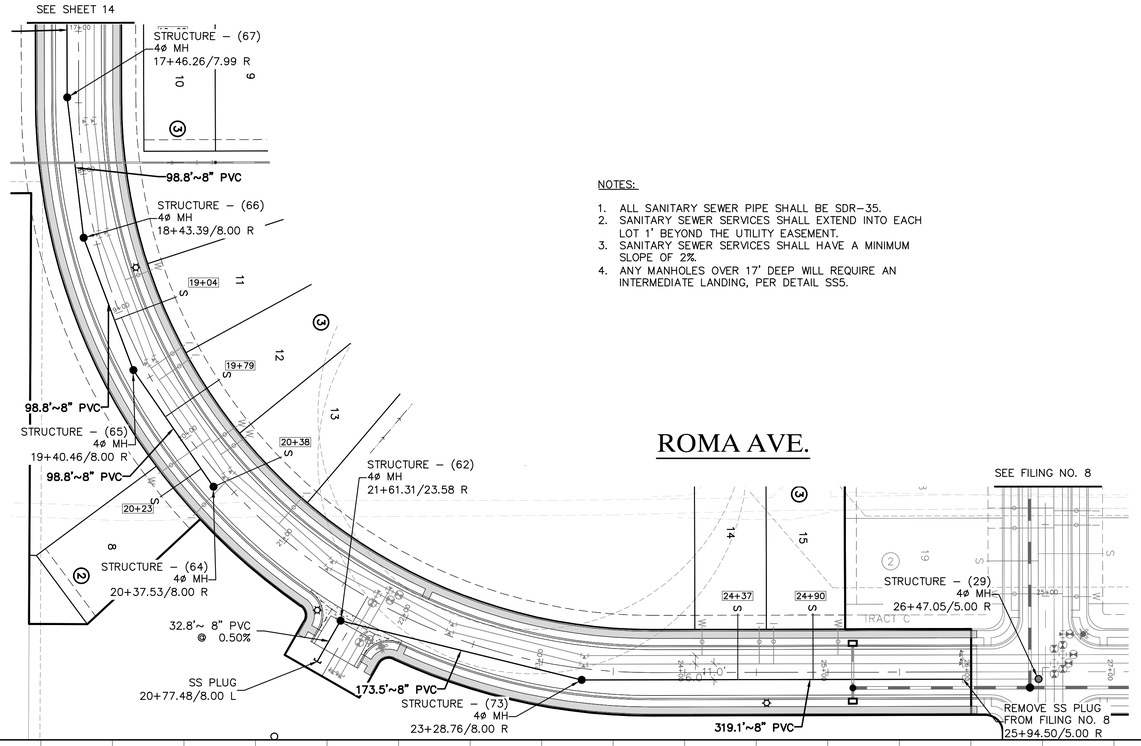
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

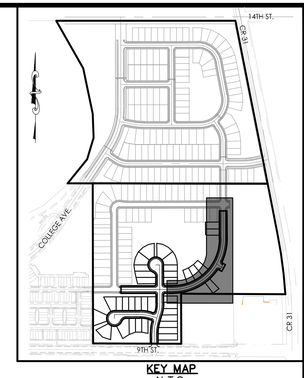
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P.M. DJR
JOB 20002948
SHEET NO. 12

CAD FILE: 21002269-F9-STREET B.DWG



NOTES:

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3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ANY MANHOLES OVER 17' DEEP WILL REQUIRE AN INTERMEDIATE LANDING, PER DETAIL SS5.



KEY MAP
N.T.S.

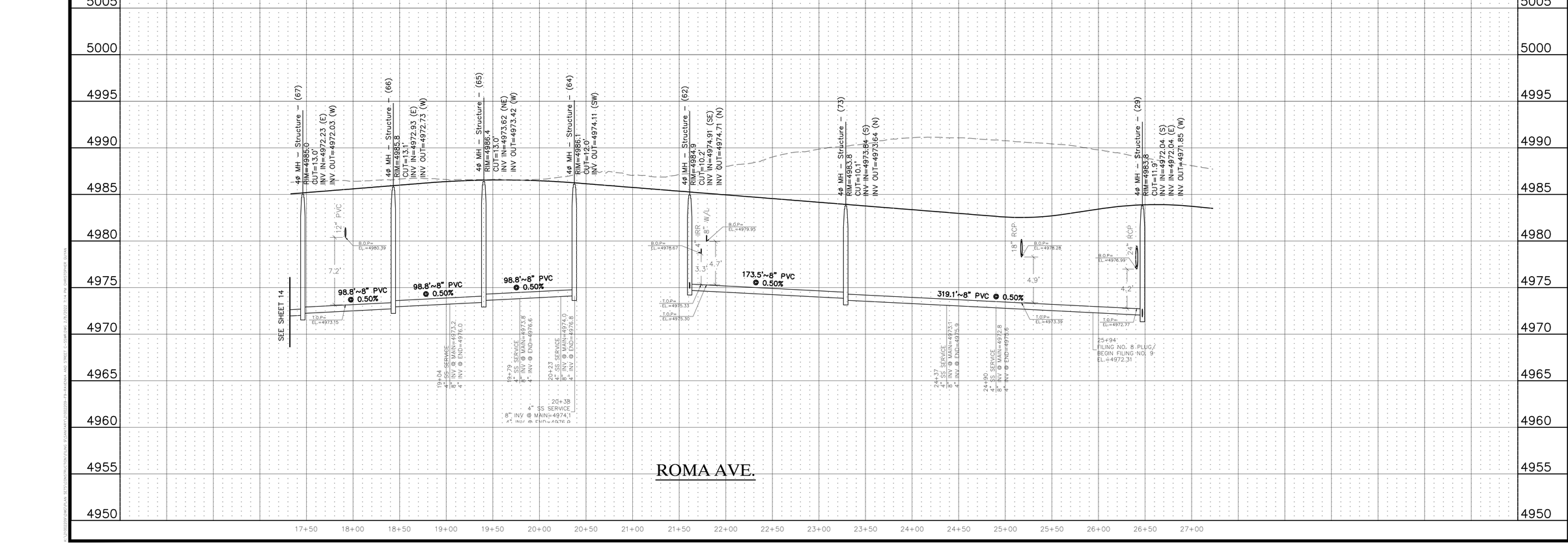
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
ROMA AVE.

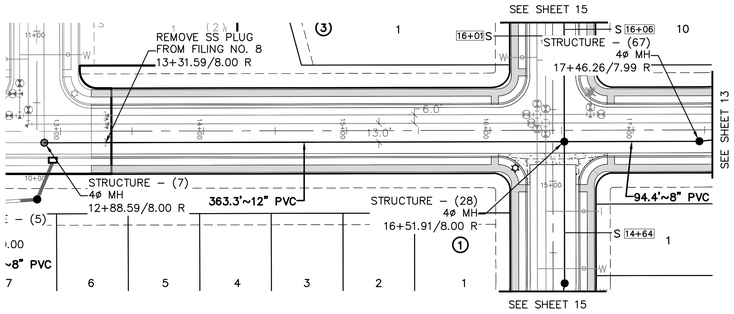
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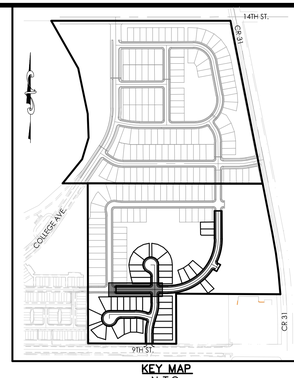
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P.M. DJR
JOB 20002948
SHEET NO. 13

CAD FILE: 21002209-F9-RAVENNA AND STREET C-SSWR.DWG



ALTO ST.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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NOTES:

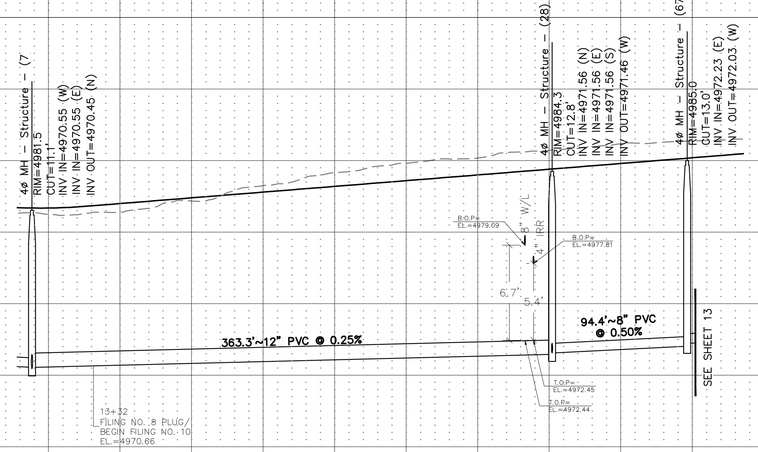
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NGS "4907" (NAVD88 EL=4908.22)



ALTO STREET

5005 5000 4995 4990 4985 4980 4975 4970 4965 4960 4955 4950

12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
ALTO ST.

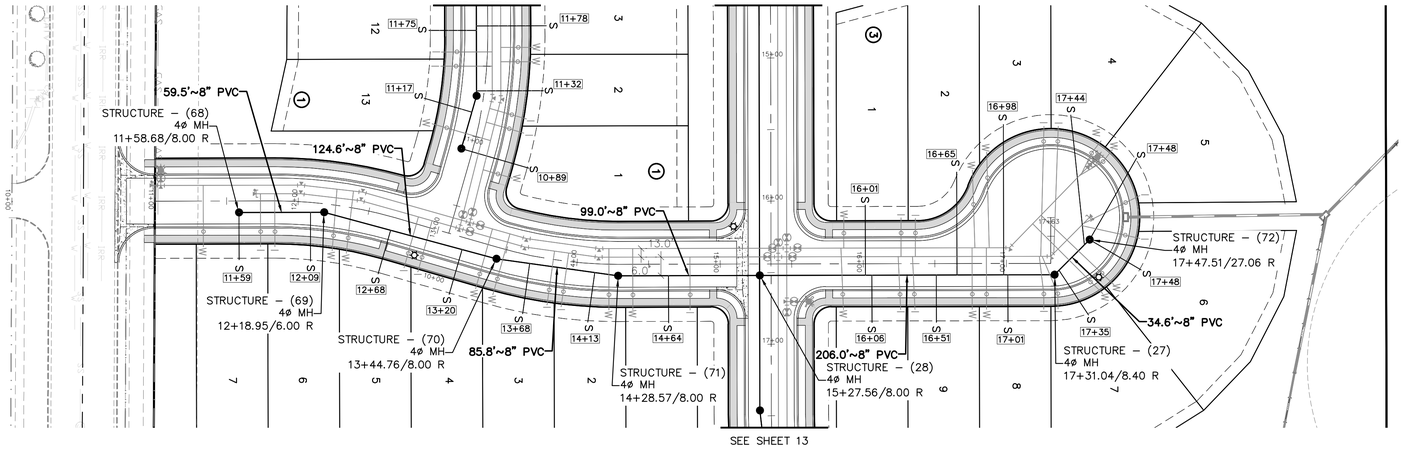
DATE 2/8/2022

REVISIONS

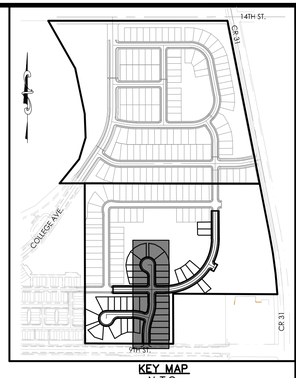
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 14

CAD FILE: 21002209-F9-RAVENNA AND STREET C-SSWR.DWG
LAST SAVED BY EPARKER ON 2/8/2022 2:13:47 PM
LAST PLOTTED BY EPARKER ON 2/8/2022 2:14:00 PM



LAGO AVE. & LAGO CT.



KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

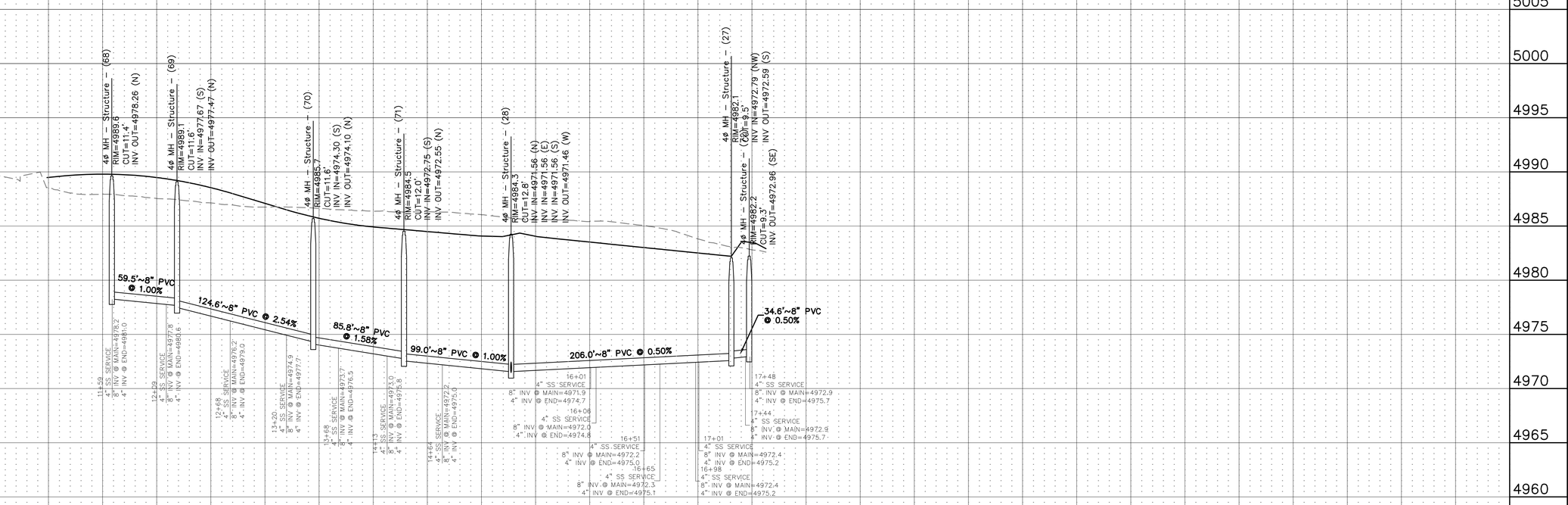
1. ALL SANITARY SEWER PIPE SHALL BE SDR–35.
2. SANITARY SEWER SERVICES SHALL EXTEND INTO EACH LOT 1' BEYOND THE UTILITY EASEMENT.
3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ANY MANHOLES OVER 17' DEEP WILL REQUIRE AN INTERMEDIATE LANDING, PER DETAIL SS5.

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)



LAGO AVE. & LAGO CT.

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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
LAGO AVE. & LAGO CT.

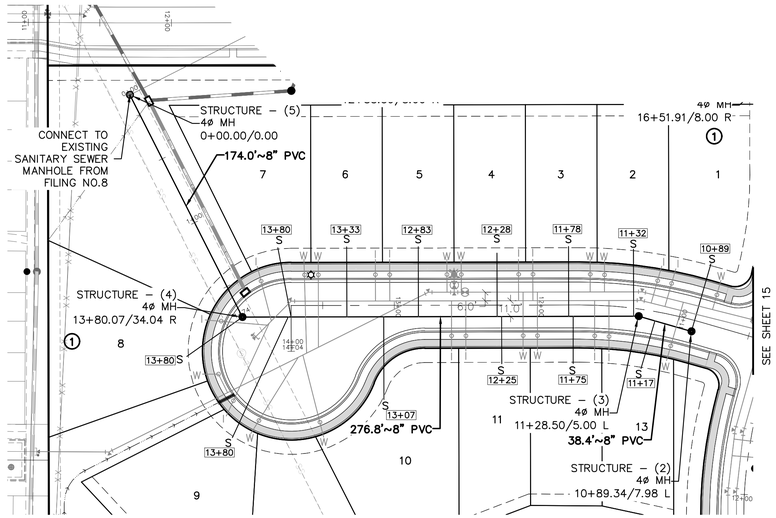
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 15

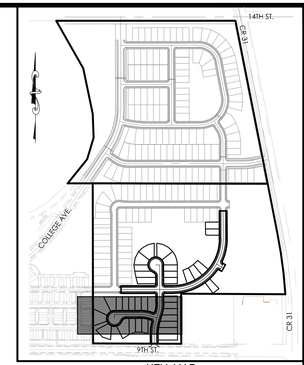
CAD FILE: 21002209-F9-STREET B-SSMP.DWG



ROSE CT.

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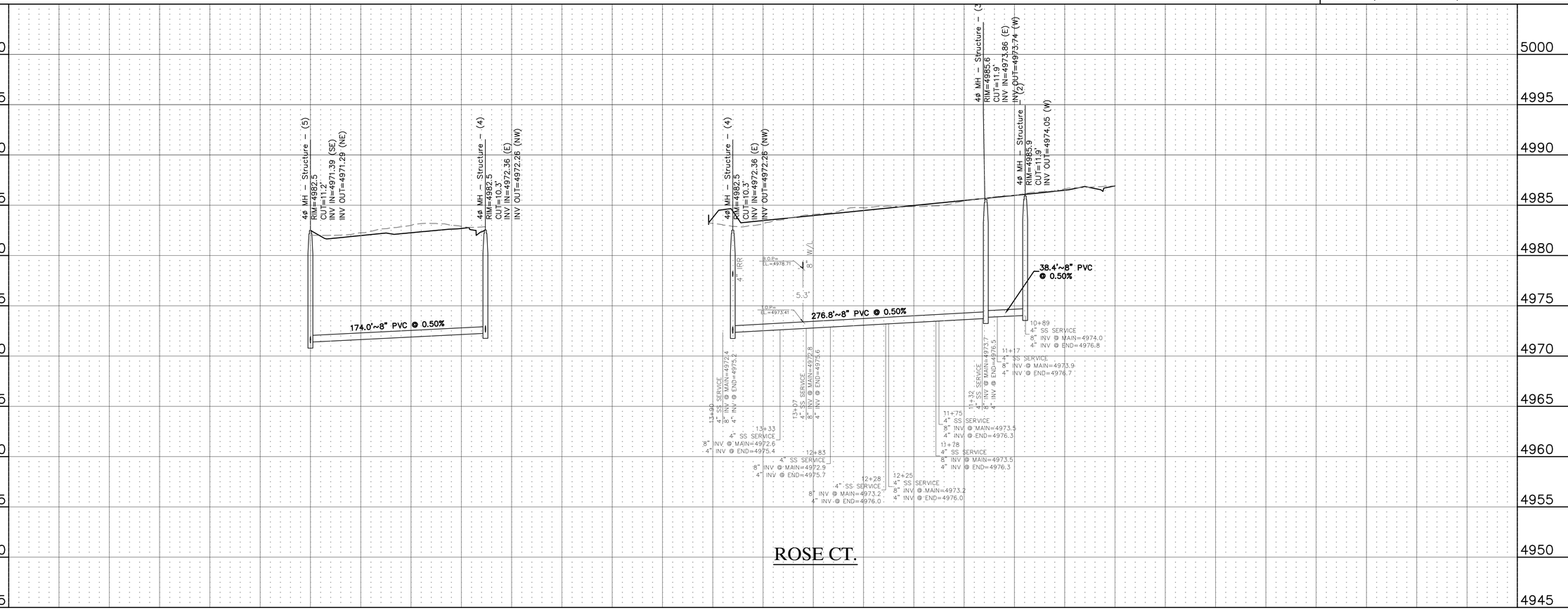
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

BENCHMARK:

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NGS "U 260" (NAVD88 EL=4894.42)
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ROSE CT.

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NEWPORT BEACH, CA 92660
303-905-3496

CLIENT
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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
ROSE CT.

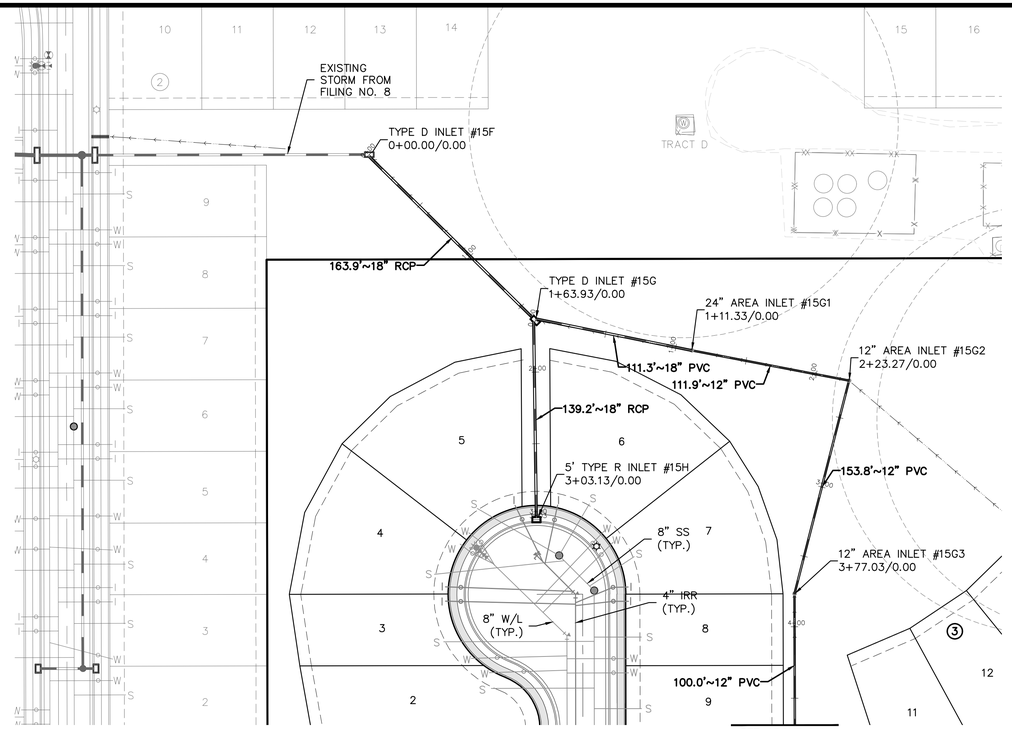
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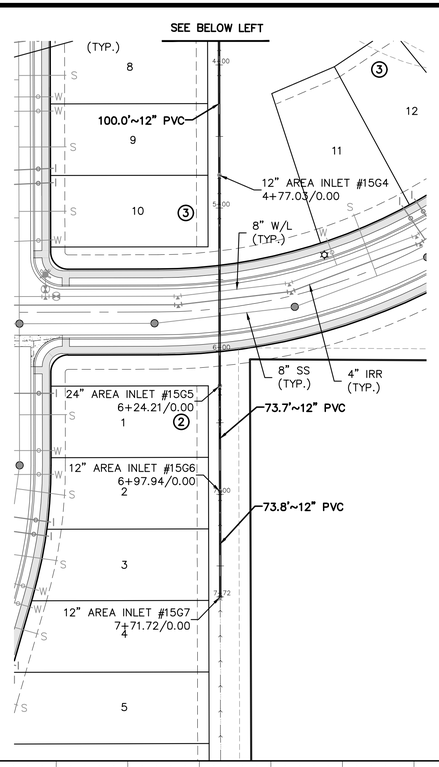
REVISIONS

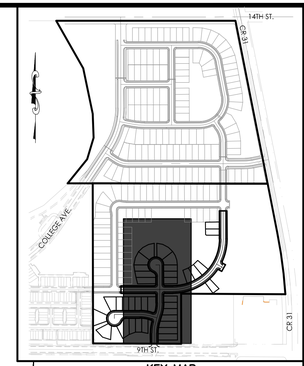
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 16

CAD FILE: 21002209-19-RAVENNA AND STREET C-SSWR.DWG







KEY MAP
N.T.S.

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

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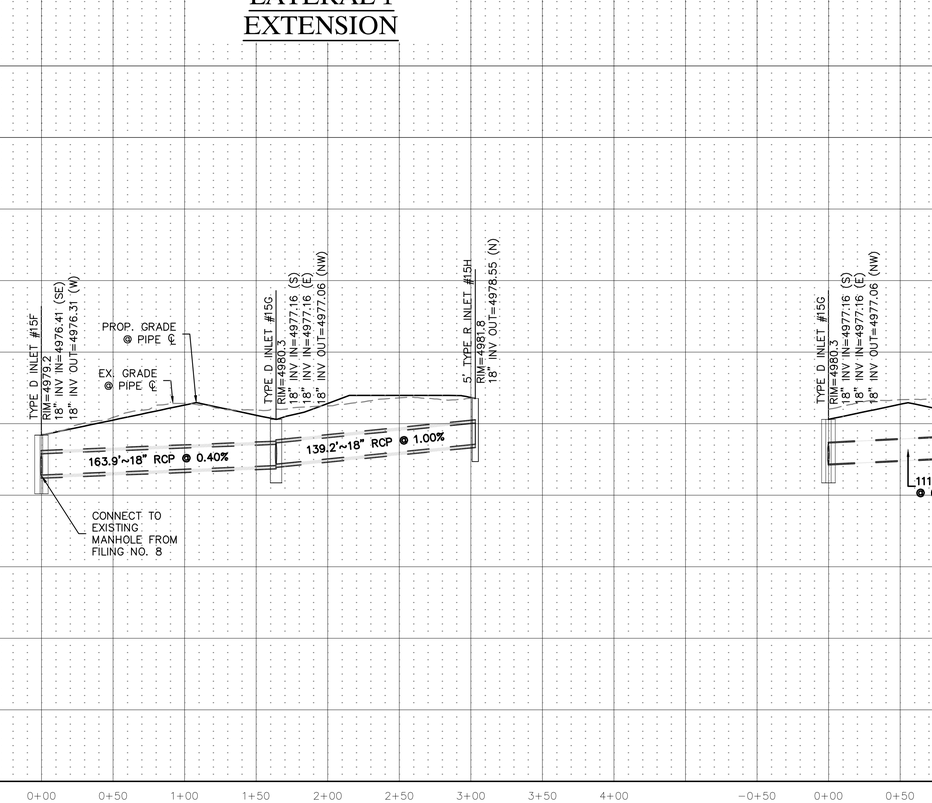
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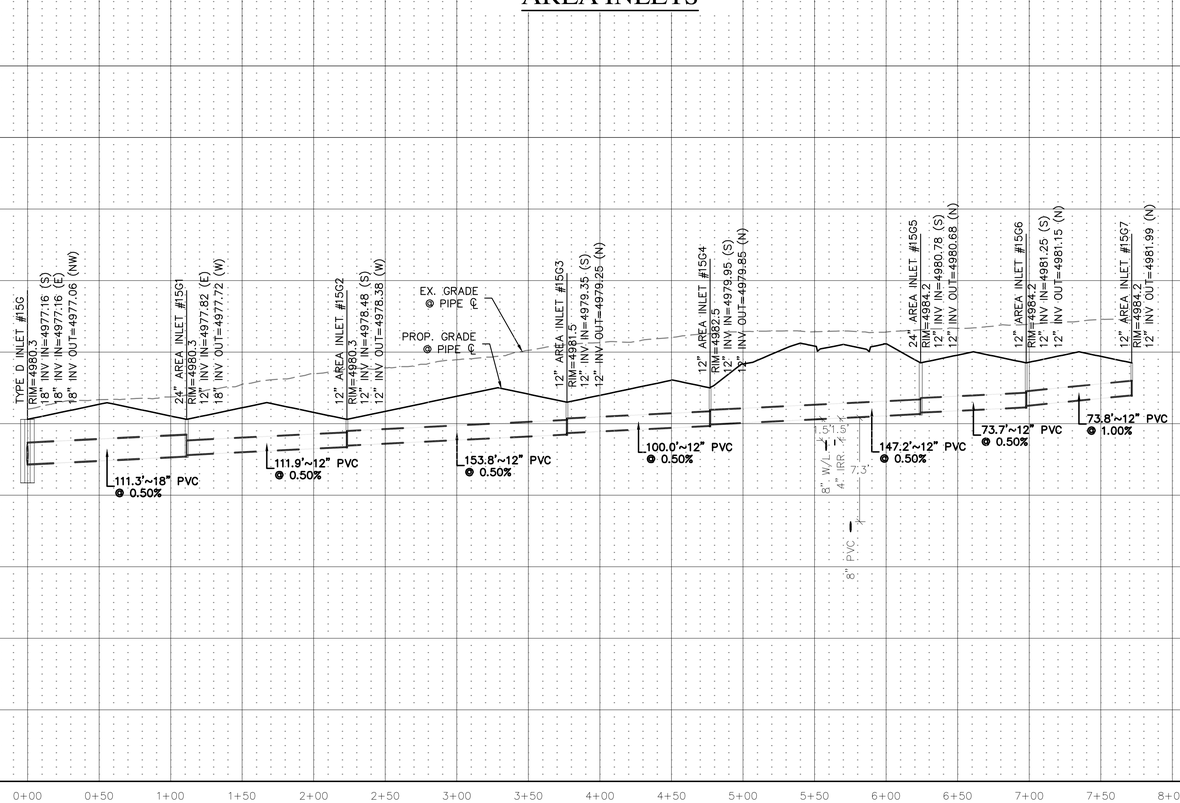
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STORM TRUNK 15 LATERAL 1 EXTENSION



STORM TRUNK 15 AREA INLETS



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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 15

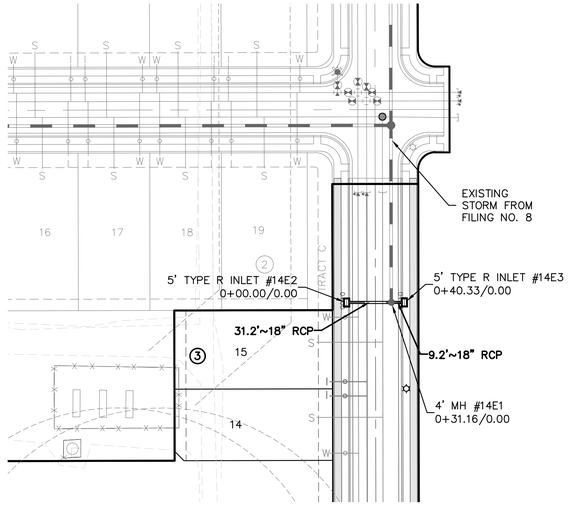
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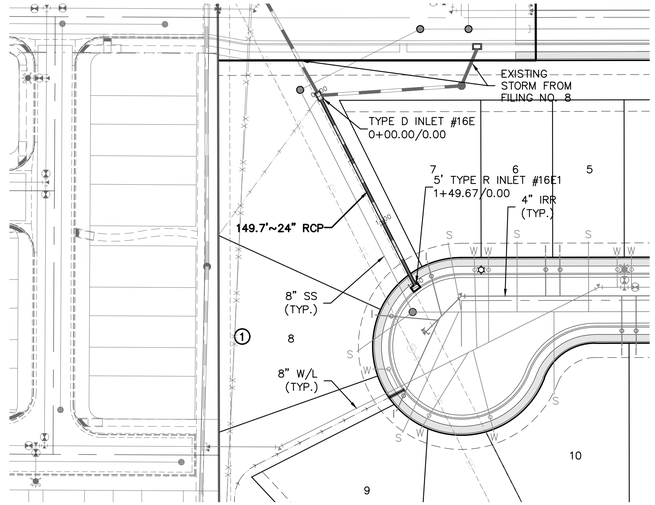
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 17

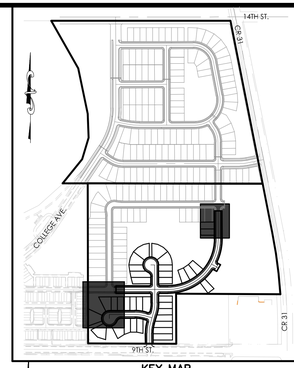
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STORM TRUNK 14
LATERAL 5



STORM TRUNK 16
LATERAL 1



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021-XXXX &
PLAN NO.: PPL2021-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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NGS "U 260" (NAVD88 EL=4894.42)
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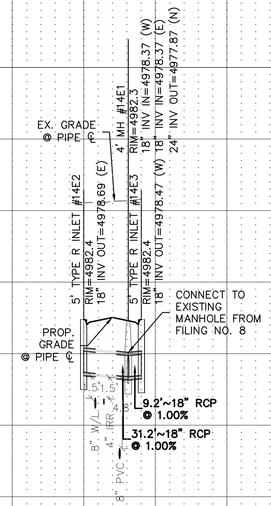
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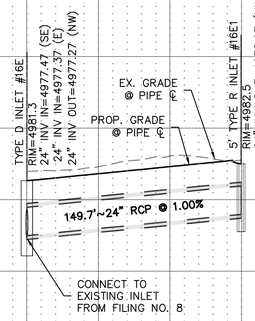
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5010 5005 5000 4995 4990 4985 4980 4975 4970 4965 4960 4955

−0+50 0+00 0+50 1+00 1+50 2+00

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STORM SEWER PLAN & PROFILE
STORM 14 & 16

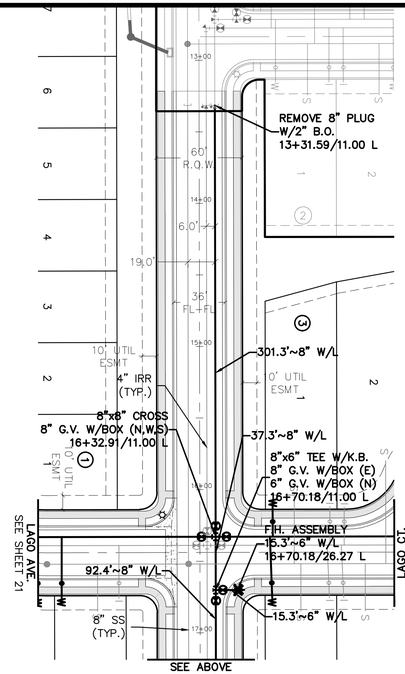
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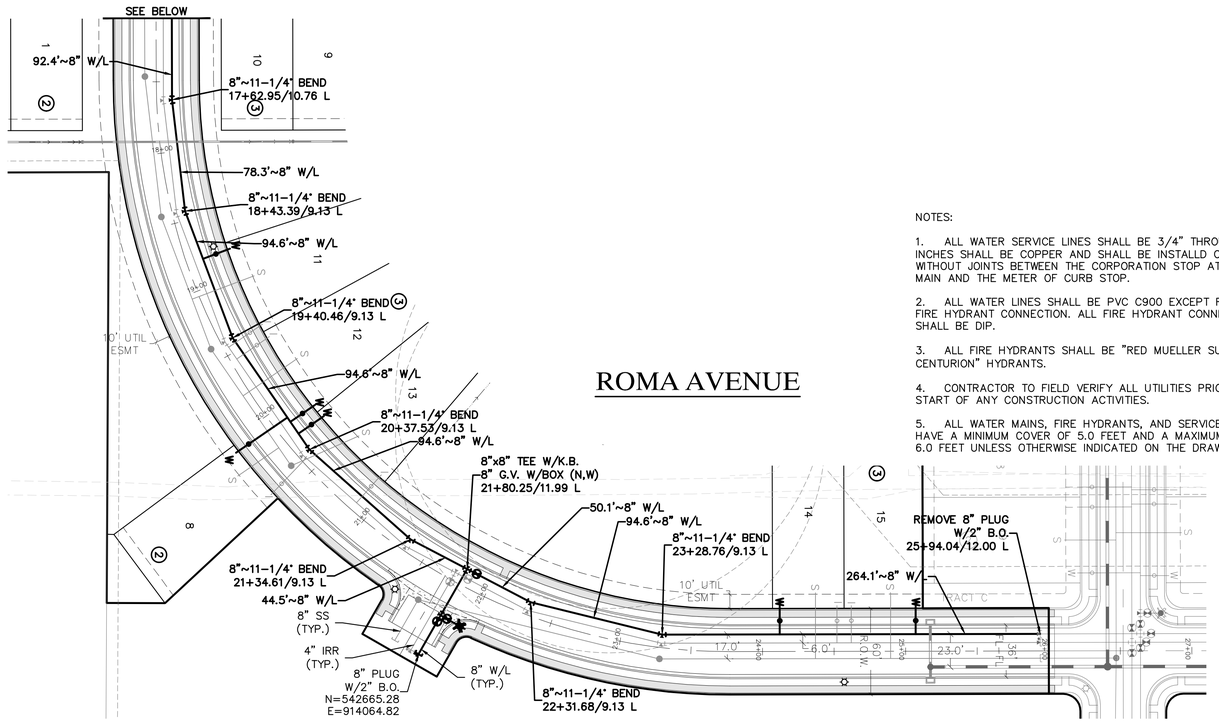
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 20002948
SHEET NO. 18

CAD FILE: 21002209-F9-STORM.DWG



ALTO STREET



ROMA AVENUE

NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
ALTO ST. & ROMA AVE.

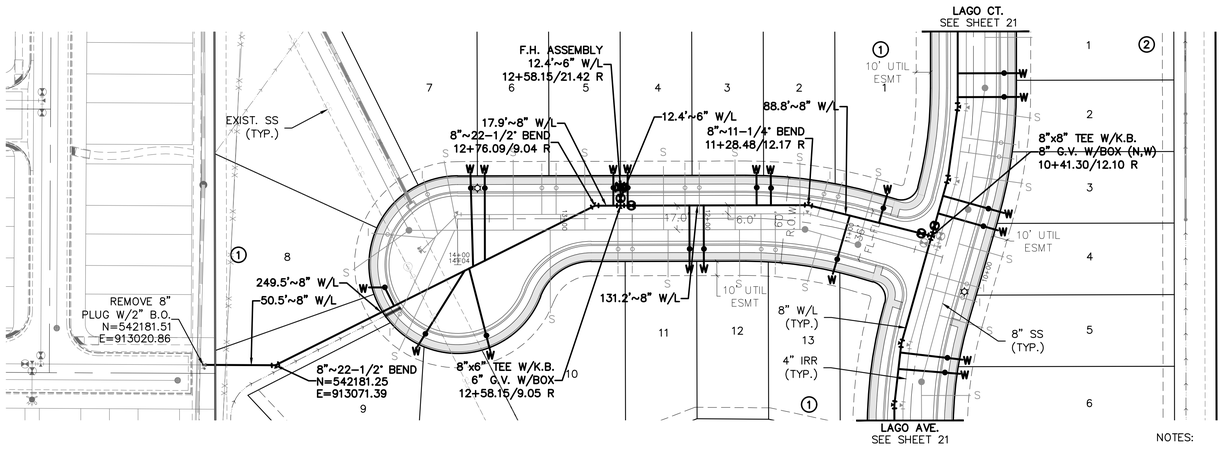
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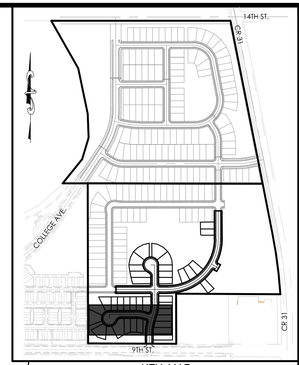
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 19

CAD FILE: 21002209-19-WATER P&P-01.DWG



ROSE CT.



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PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
ROSE CT.

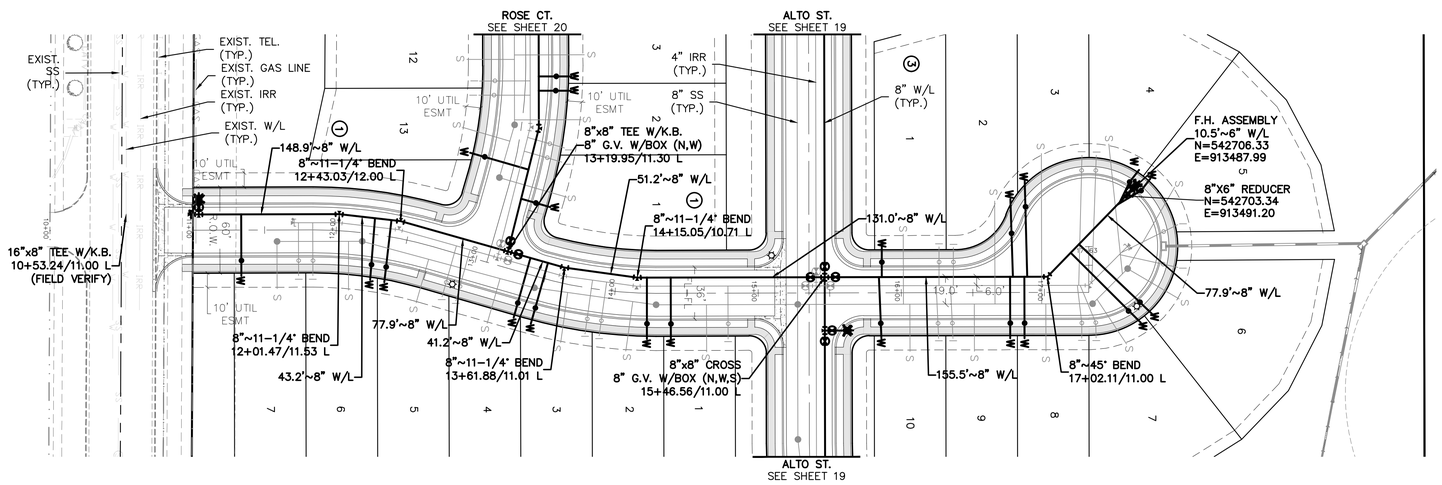
DATE 2/8/2022

REVISIONS

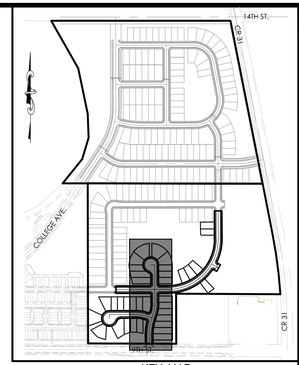
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 20

CAD FILE: 21002209-19-WATER P&P-01.DWG



LAGO AVE. & LAGO CT.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
LAGO AVE. & LAGO CT.

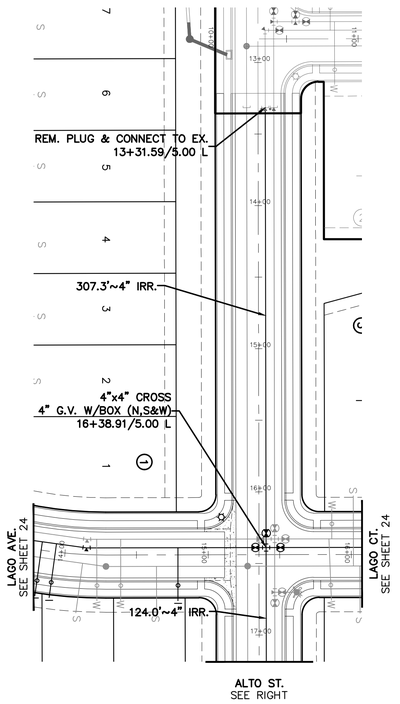
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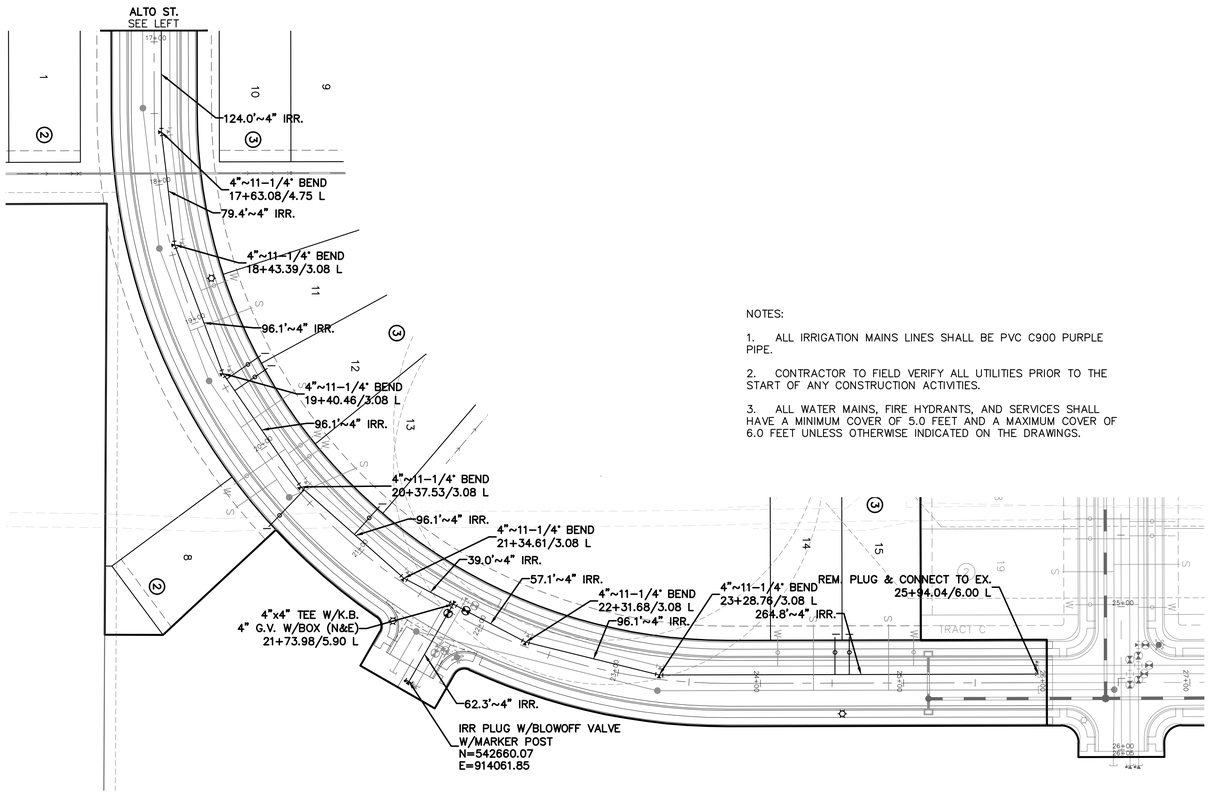
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SHEET NO. 21

CAD FILE: 21002209-19-WATER P&P-02.DWG



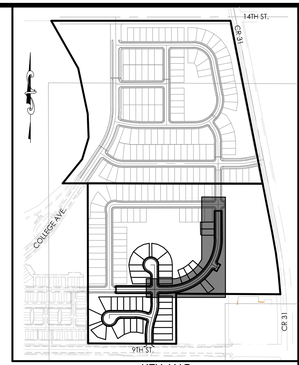


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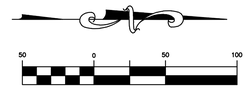
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KEY MAP
N.T.S.



(IN FEET)
1 inch = 50 ft.

ALTO ST. & ROMA AVE.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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NGS "U 260" (NAVD88 EL=4894.42)
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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
ALTO ST. & ROMA AVE.

DATE 2/8/2022

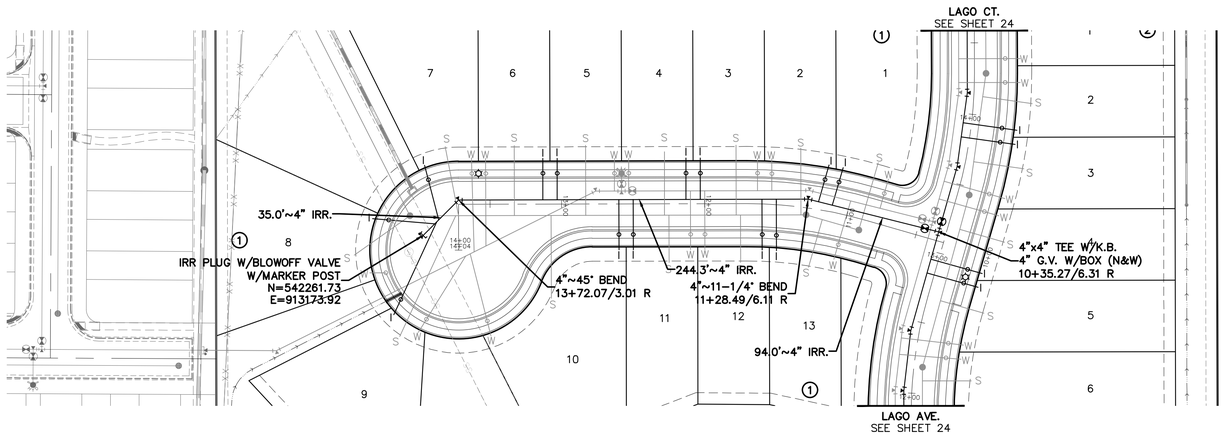
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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

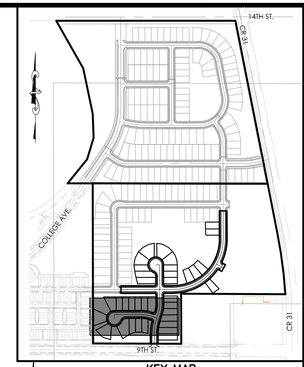
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JOB 21002209
SHEET NO. 22

CAD FILE: 21002209-F9-RAENNA AND STREET C-IRR.DWG

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ROSE CT.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
ROSE CT.

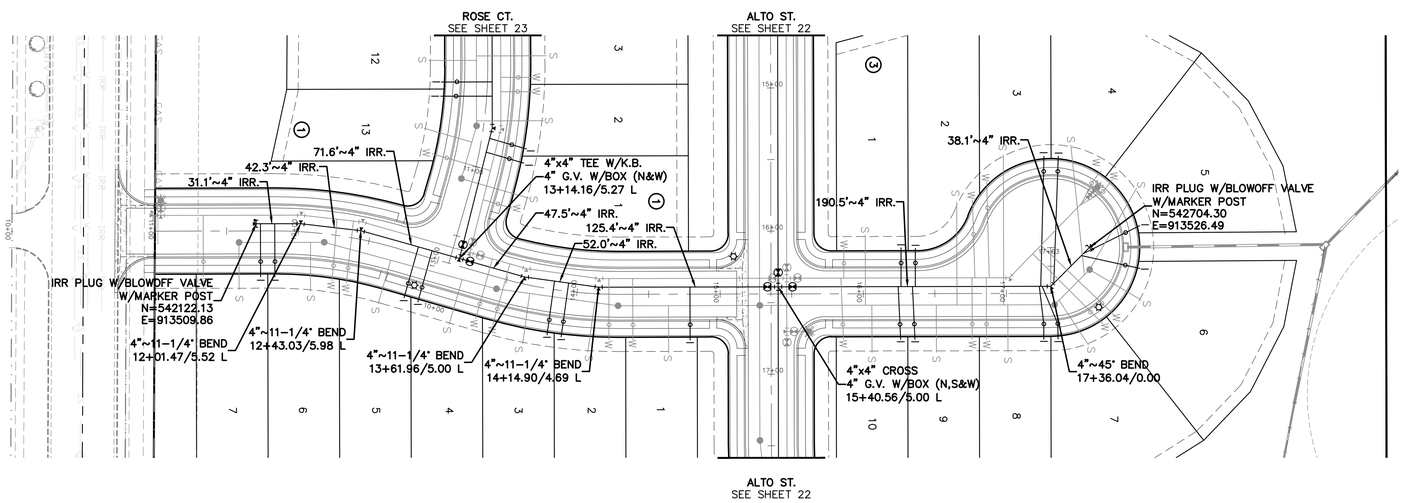
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REVISIONS

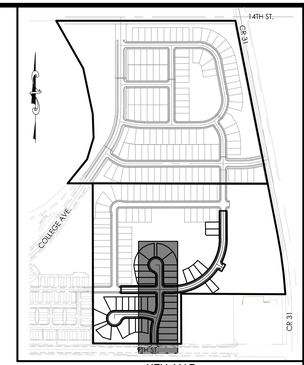
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JOB 21002209
SHEET NO. 23

CAD FILE: 21002209-19-RAVENNA AND STREET C-IRR.DWG



LAGO AVE. & LAGO CT.



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N.T.S.

50 0 50 100
(IN FEET)
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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
LAGO AVE. & LAGO CT.

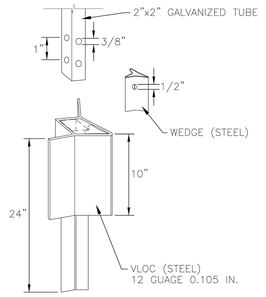
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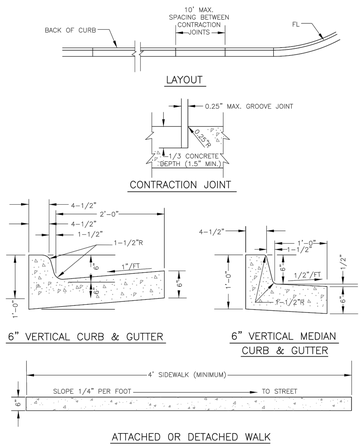
PLANS UNDER REVIEW
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JOB 21002209
SHEET NO. 24

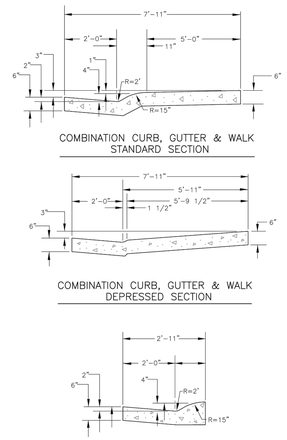
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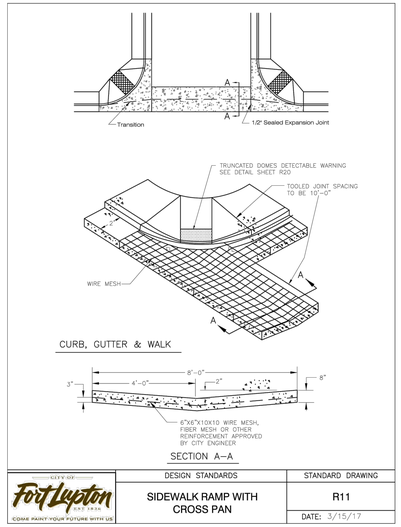
CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14



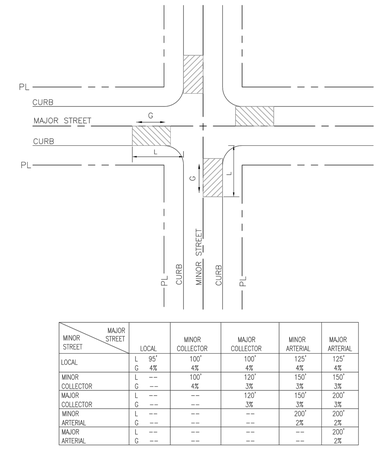
CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14



CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	SIDEWALK RAMP WITH CROSS PAN	R11
		DATE: 3/15/17



MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
		DATE: 8/15/14

CITY OF Fort Lupton	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

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COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
STREET DETAILS

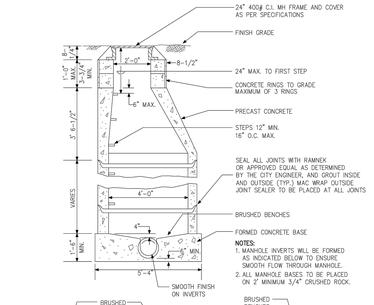
DATE 2/8/2022

REVISIONS

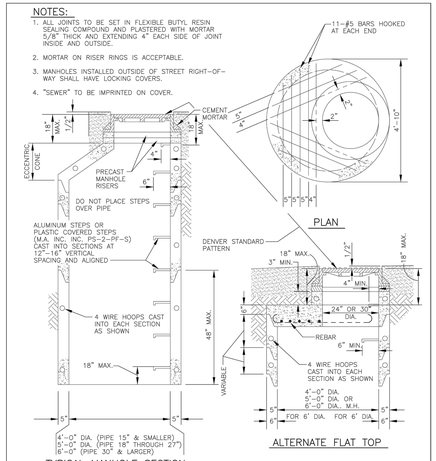
PLANS UNDER REVIEW
NOT FOR CONSTRUCTION

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JOB 21002209
SHEET NO. 25

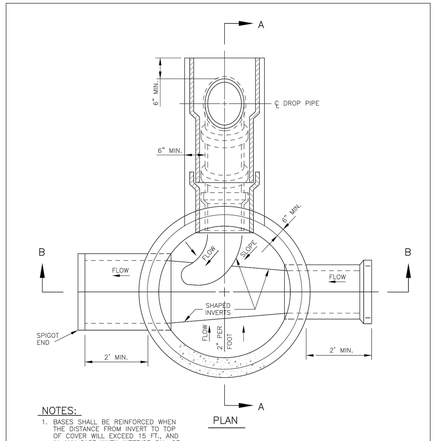
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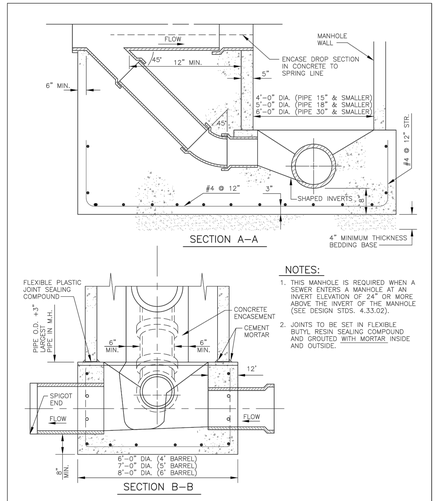
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SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14



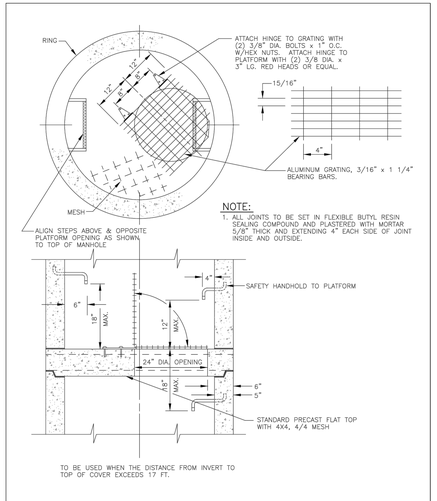
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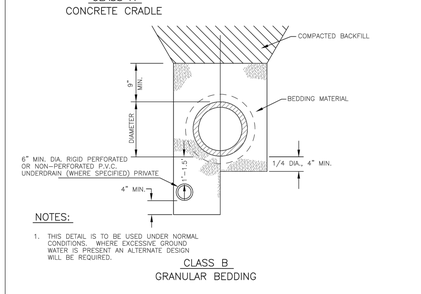
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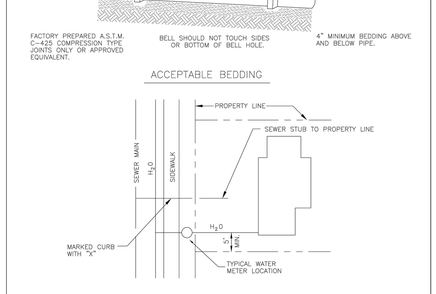
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DROP MANHOLE DETAIL	SS4
	DATE: 8/15/14



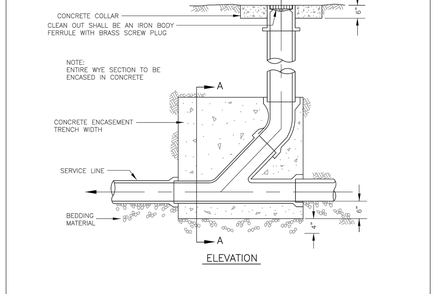
DESIGN STANDARDS	STANDARD DRAWING
INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14



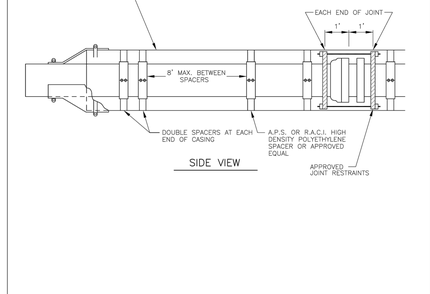
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14



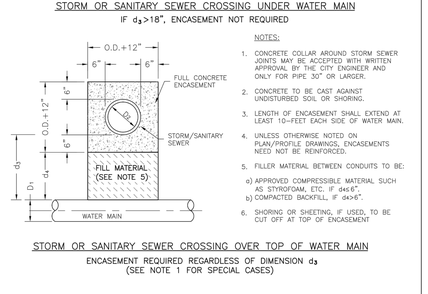
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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NOTICE:
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143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
SANITARY DETAILS

DATE 2/8/2022

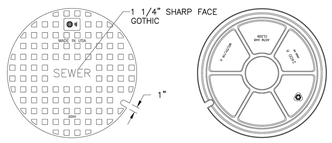
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

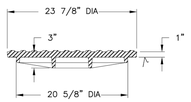
DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 26

CAD FILE: 21002209-P9-SANITARY DETAILS.DWG

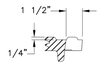
2400A Cover



COVER BACK



SECTION



PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Gray Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

Certification
- ASTM A48
-Country of Origin USA

	DESIGN STANDARDS	STANDARD DRAWING
CITY OF Fort Lupton COLORADO COME PAINT YOUR FUTURE WITH US	SANITARY SEWER MANHOLE LID	SS12
		DATE: 5/04/2017

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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DETAILS
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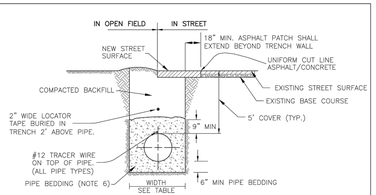
DATE 2/8/2022

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TYPICAL TRENCH SECTION

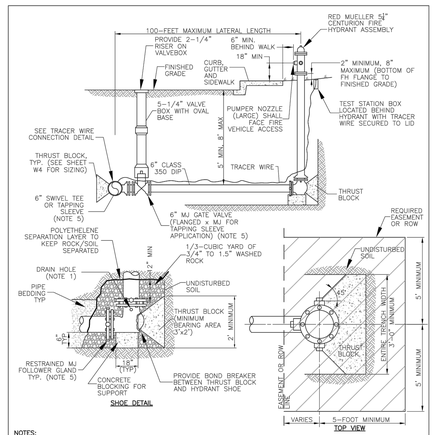
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM. HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

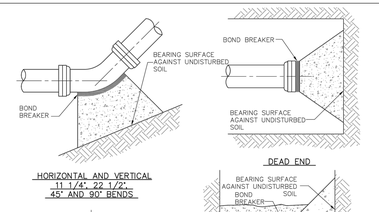
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



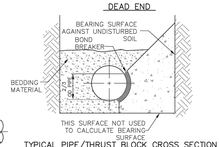
NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

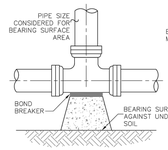
DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS



DEAD END



TEE OR TAPPING SLEEVE

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA

(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

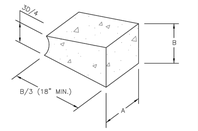
1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

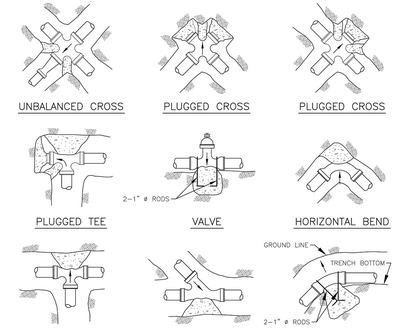


NOT TO SCALE

GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION—POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" AND 2" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE 45° AND 90° BENDS, TEES.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER STRAINER SHALL BE INSTALLED ON THE INLET SIDE OF THE METER. STRAINER BODY SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. METER VAULT SHALL BE LOCATED WITHIN 10' OF THE WATER MAIN.
14. NOTE: VAULT ROOFING, WALLS AND FLOOR PLATES MUST BE MANUFACTURED OF STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

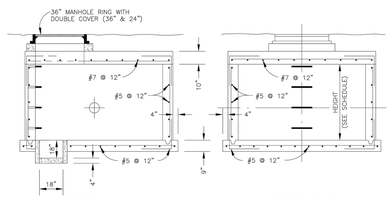
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 28

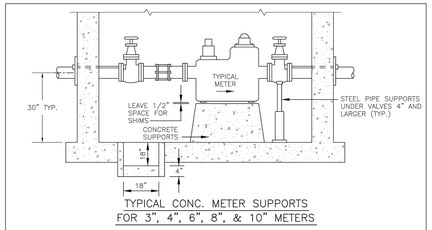
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METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

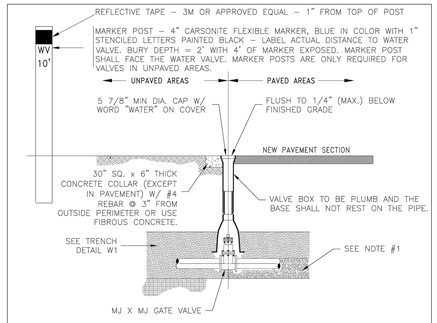
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL METER VAULT	W12
	DATE: 8/15/14



NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

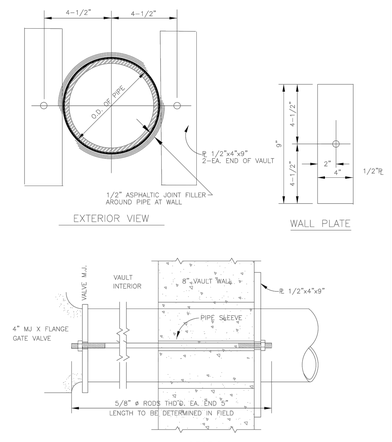
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CONCRETE METER SUPPORTS	W13
	DATE: 8/15/14

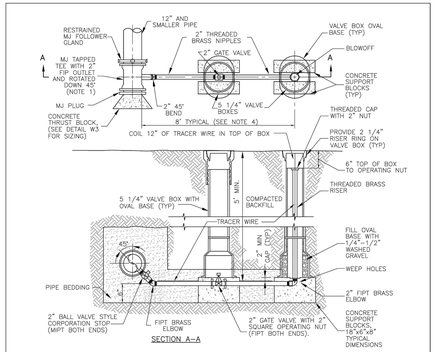


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14

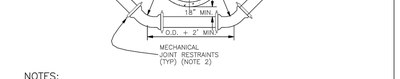


DESIGN STANDARDS	STANDARD DRAWING
WALL CLAMP	W15
	DATE: 8/15/14

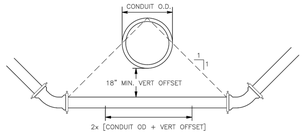


NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE FLANGE. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPE.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING THRUST BLOCKS.

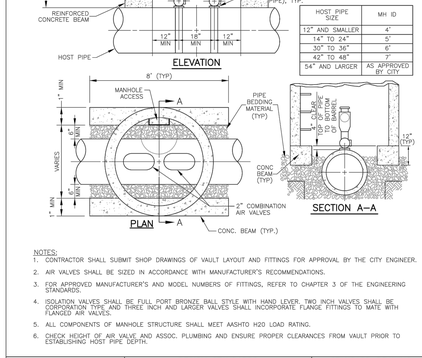
DESIGN STANDARDS	STANDARD DRAWING
STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
	DATE: 8/15/14



NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.



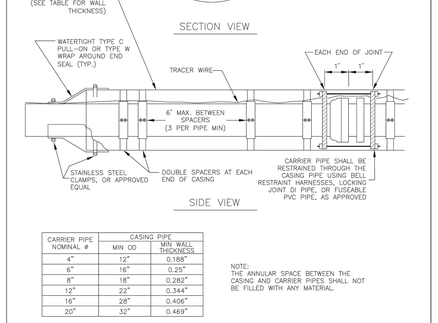
DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14



HOST PIPE SIZE	MH ID
12" AND SMALLER	4'
14" TO 24"	5'
30" TO 36"	6'
42" TO 48"	7'
54" AND LARGER	AS APPROVED BY CITY

NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

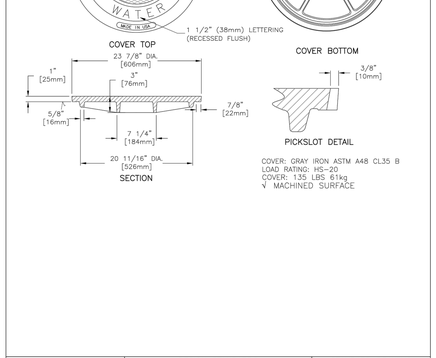
DESIGN STANDARDS	STANDARD DRAWING
COMBINATION AIR VALVE INSTALLATION	W19
	DATE: 8/15/14



CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

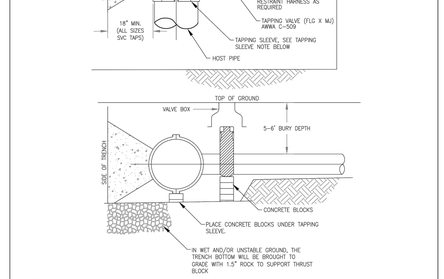
NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
BORING DETAIL	W22
	DATE: 8/15/14



COVER: GRAY IRON ASTM A48 CL35 B
LOAD RATING: HS–20
COVER: 135 LBS. 61kg
√ MACHINED SURFACE

DESIGN STANDARDS	STANDARD DRAWING
WATER VAULT LID	W24
	DATE: 8/15/14



NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

DESIGN STANDARDS	STANDARD DRAWING
WET TAP CONNECTION - 4" AND LARGER TAP	W25
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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NOTICE:
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LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303–905–3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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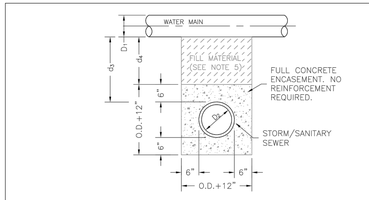
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REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

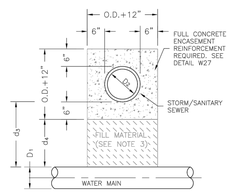
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SHEET NO. 29

CAD FILE: 21002209–09–WATER DETAILS.DWG
LAST SAVED BY: CJG ON 2/8/2022 9:21 PM BY CHRISTOPHER GLISH



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

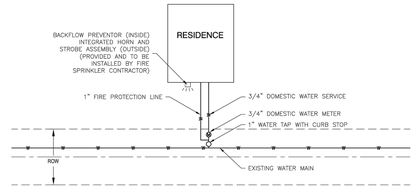
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d≥6". COMPACTED BACKFILL, IF d<6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ENCASEMENT FOR CONDUIT CROSSING	W26
		DATE: 8/15/14

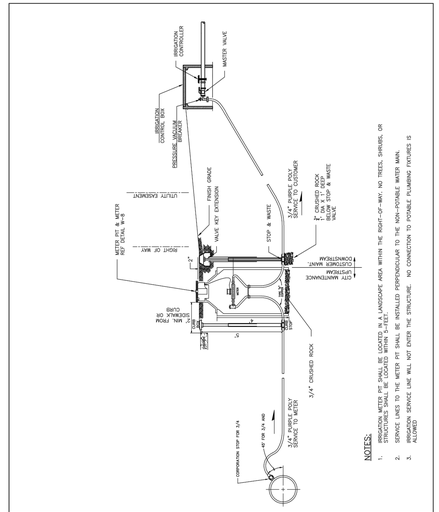
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SINGLE WATER TAP FOR FIRE LINE	W29
		DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3'-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-POTABLE WATER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	3/4" & 1" IRRIGATION METER SETS	W30
		DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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NEWPORT BEACH, CA 92660
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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

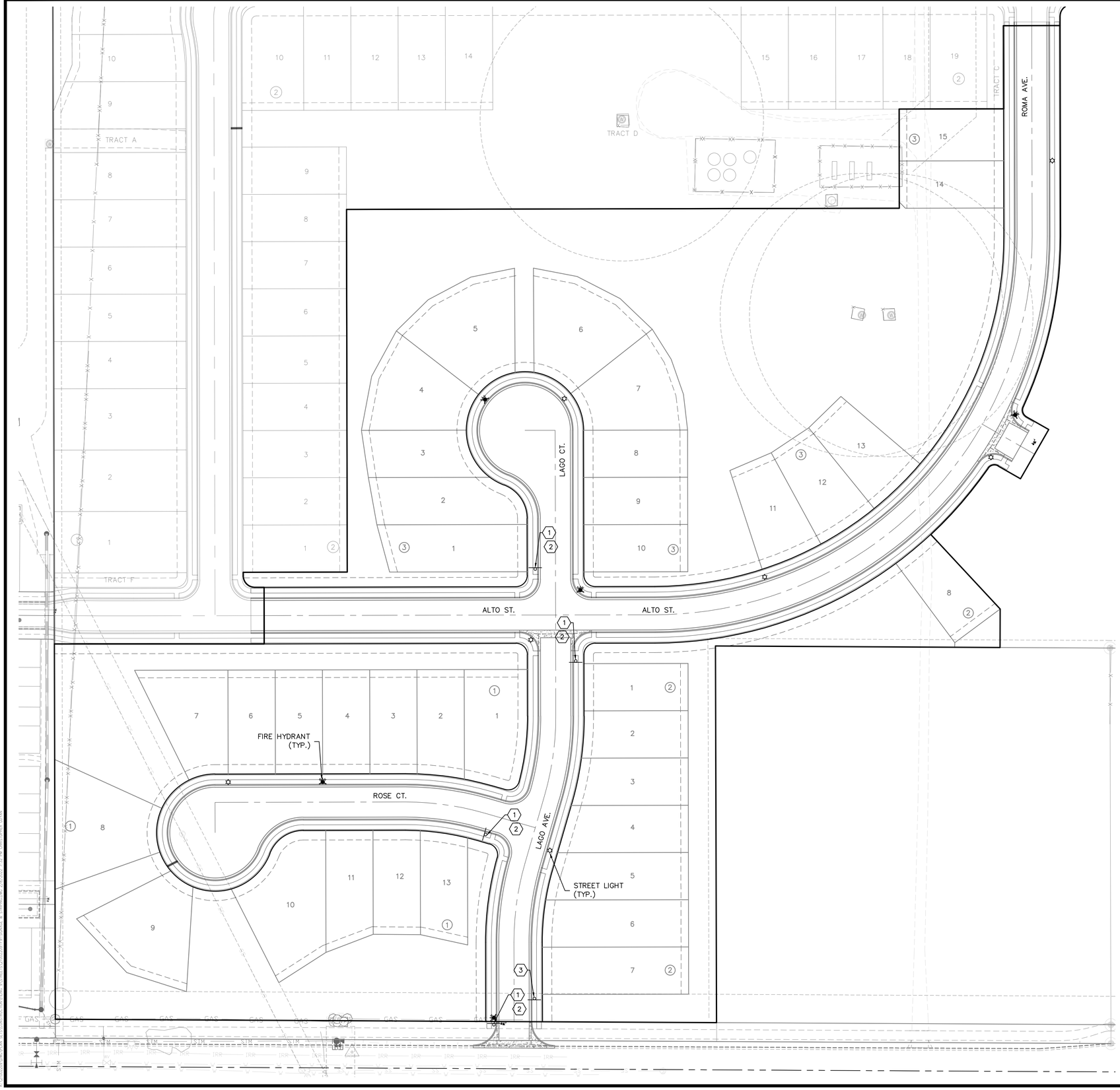
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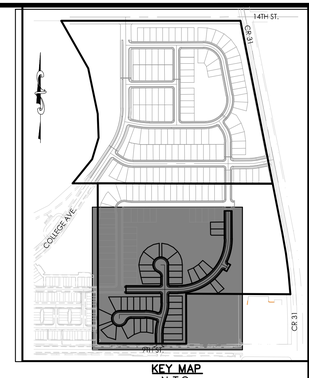
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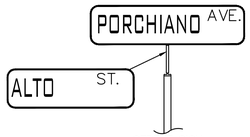
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KEY MAP
N.T.S.



STREET SIGN (TYP.)
NTS
2



R2-1
24"x30"
NTS
3



D3
VARIABLE SIZE
NTS

CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS



R1-1
30"x30"
NTS
1

NOTES:

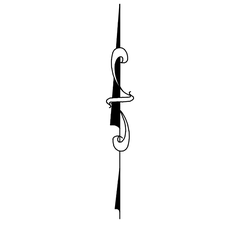
1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.

3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
(A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
(B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.

4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.

5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.



(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

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303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 9
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 31

CAD FILE: 21002209-F9-SIGNAGE & STRIPING.DWG

COTTONWOOD GREENS FILING NO. 10

A TRACT OF LAND LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

FILING NO. 10 CONSTRUCTION PLANS

LEGAL DESCRIPTION:

COTTONWOOD GREENS PUD FILING NO. 10

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33;

THENCE NORTH 08°41'56" WEST 454.22 FEET TO A CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 3220873, WELD COUNTY RECORDS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID CONNER FAMILY TRUST AND ALONG THE NORTH LINE OF SAID PARCEL OF LAND AND THEN ALONG THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS NORTH 89°42'22" WEST 527.55 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 9, RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTH LINES AND ALONG SAID EASTERLY LINE THE FOLLOWING TEN (10) COURSES:

1. NORTH 00°17'38" EAST 40.73 FEET;
2. NORTH 42°57'02" WEST 107.80 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET AND A CENTER WHICH BEARS NORTH 42°54'05" WEST;
3. 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
4. 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08";
5. SOUTH 60°12'00" EAST 27.25 FEET;
6. NORTH 29°48'00" EAST 60.00 FEET;
7. NORTH 60°12'00" WEST 27.33 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
8. 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET;
9. 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45"
10. NORTH 00°07'09" WEST 222.76 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS;

THENCE DEPARTING THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 9 AND ALONG THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING SEVEN (7) COURSES:

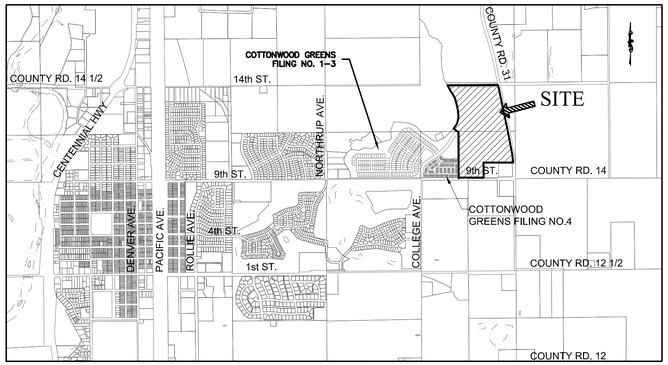
1. NORTH 00°07'09" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
2. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. NORTH 89°52'51" EAST 10.00 FEET;
4. NORTH 00°07'09" WEST 60.00 FEET;
5. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
7. NORTH 00°07'09" WEST 123.08 FEET TO THE NORTH LINE OF SAID TRACT OF LAND, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. , WELD COUNTY RECORDS;

THENCE ALONG SAID NORTH AND SOUTH LINES SOUTH 89°52'26" EAST 323.53 FEET TO THE EASTERLY LINE OF SAID TRACT OF LAND, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31;

THENCE ALONG SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°10'31" EAST 399.80 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08" TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 374,010 SQUARE FEET, OR 8.59 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=2,000'

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2	NOTES, LEGEND & TYPICAL SECTIONS
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6	GESC FINAL
7	GESC DETAILS
8	GESC DETAILS
DETAIL GRADING	
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STREET PLAN & PROFILE	
10	VERDI ST., SISTO AVE. & STRADA ST.
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RESIDENTIAL DESIGN STANDARDS VARIANCES

THIS IS A REQUEST FOR A VARIANCE FROM SECTION III, H.3.B (3) STREET TREE PLANTING, OF THE RESIDENTIAL DESIGN STANDARDS.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

CITY ENGINEER'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ENGINEER

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
DIRECTOR OF PUBLIC WORKS

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ___ DAY OF _____, 2020.

_____
CITY ADMINISTRATOR

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ___ DAY OF _____, 2020, BY RESOLUTION NO. _____,

_____
CHAIRPERSON, FORT LUPTON
PLANNING COMMISSION

MAYOR'S CERTIFICATE:
THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY [ORDINANCE/RESOLUTION] NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ___ DAY OF _____, A.D., 2020 AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID [ORDINANCE/RESOLUTION] ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST: _____

_____
CITY CLERK

(SEAL)

OWNER:
COTTONWOOD DEVELOPMENT PARTNERS, LLC.
4040 MACAURTHER BLVD.,
SUITE 250
NEWPORT BEACH, CA 92660
(303) 905-3496
CONTACT: JIM RIGHEIMER

CIVIL ENGINEER:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: DANIEL RODRIGUEZ

SURVEYOR:
ATWELL, LLC.
143 UNION BLVD.,
SUITE 700
LAKEWOOD, CO 80228
(303) 462-1100
CONTACT: MICHAEL L. POOL

CITY OF FORT LUPTON:
130 S. McKINLEY AVE.
FORT LUPTON, CO 80621
(303) 857-6694
CONTACT: ROY VESTAL

XCEL ENERGY(GAS):
5460 W. 60TH AVE.
ARVADA, CO 80003
(800) 895-4999
CONTACT: DONNA SANDERS

UNITED POWER (ELEC):
P.O. BOX 929
BRIGHTON, CO 80601
(303) 659-0551
CONTACT: HECTOR AVENDANO

CENTURYLINK (FIBER OPTIC):
5324 WADSWORTH BYP.,
SUITE F
ARVADA, CO 80002
(303) 403-9980

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

ENGINEER'S STATEMENT

THE CONSTRUCTION PLANS INCLUDED HEREIN HAVE BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF FORT LUPTON ENGINEERING CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

_____ _____
DANIEL J. RODRIGUEZ, P.E. DATE
COLORADO NO. 48683
FOR AND ON BEHALF OF ATWELL, LLC.

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
COVER SHEET

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1

CAD FILE: 21002209-FIG-COVER SHEET.DWG
LAST CONSTRUCTION SYNCHRONIZATION: 2/7/2022 8:38 AM MOUNTAIN STANDARD TIME

GENERAL NOTES – WATER & SANITARY SEWER

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FORT LUPTON STANDARD SPECIFICATIONS, LATEST EDITION OR PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

2. ALL OVER LOT GRADING IN THE RIGHT–OF–WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

3. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 BEFORE DIGGING, GRADING OR EXCAVATING.

4. MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18 INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18 INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF FORT LUPTON INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CONSTRUCTION STANDARDS.

5. WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS.

6. CONTRACTOR SHALL NOTIFY THE CITY OF FORT LUPTON ONE WEEK PRIOR TO COMMENCING WORK AFTER DRAWING DISTRIBUTION AND PRECONSTRUCTION MEETING HELD WITH THE CITY.

7. CONTRACTOR TO OBTAIN ALL PERMITS, DO ALL EXCAVATION FOR OSHA SAFE TRENCH.

8. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18 INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24 INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS–BUILT RECORD DRAWINGS.

9. SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE ENGINEER (BRAD EATON, 970–395–9880).

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS–BUILT RECORD DRAWINGS UPON COMPLETION OF WORK.

11. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

12. ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

13. ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UPSTREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

14. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C–105.

15. NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

16. COPPER TRACING WIRE SHALL BE INSTALLED PER SPECIFICATIONS FOR ALL WATER PIPE.

17. FOR TAPPING PVC C–900 PIPE, AN APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED–NUT OR FEED–SCREW AND YOKE.

18. ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS–CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF FORT LUPTON WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

19. ALL DUCTILE IRON PIPE (D.I.P.) WATER MAINS SHALL BE THICKNESS CL. 50 UNLESS OTHERWISE NOTED.

20. THERE SHALL BE NO PERMANENT STRUCTURES, FENCES, OR LANDSCAPING (PLANTINGS OR BERMS) PLACED WITHIN A 10.0 FOOT RADIUS OF FIRE HYDRANTS AS CONSTRUCTED.

21. BEDDING FOR DUCTILE IRON PIPE SHALL BE TYPE 3 AS PER AWWA C–151 STANDARD LAYING CONDITIONS UNLESS OTHERWISE SPECIFIED.

22. PVC POTABLE (DOMESTIC) WATER MAIN PIPE SHALL MEET THE FOLLOWING QUALITY STANDARDS: AWWA C–900; CLASS 200 – DR 14 ELASTOMERIC RING – ASTM D1869 & F477 RING TIGHT JOINT.

23. PVC WATER PIPE SHALL BE INSTALLED USING A CDOT CLASS B BEDDING 6 INCHES ABOVE AND 6 INCHES BELOW THE PIPE.

24. INSULATED 12 GAUGE TRACER WIRE SHALL BE AFFIXED TO THE PROPOSED WATER MAINS.
   A. PASS CURRENT THROUGH WIRE AND DEMONSTRATE THAT THE WIRE IS CAPABLE OF LOCATING THE WATER MAINS.
   B. IF WIRE WILL NOT PASS CURRENT, LOCATE BREAK IN CIRCUIT AND TEST UNTIL TRACER WIRE WORKS IN ACCORDANCE WITH ITS INTENDED USE.

25. ALL IRRIGATION WATER PIPE SHALL BE EITHER PVC OR HDPE, MANUFACTURED IN A PURPLE COLOR AND SHALL BE EMBOSSED OR INTEGRALLY STAMPED WITH A STATEMENT THAT CLEARLY INDICATES THAT THE PIPE DOES NOT CONTAIN POTABLE WATER.

26. ALL IRRIGATION SYSTEM VALVE BOX LIDS, METER PIT COVERS, MANHOLE COVERS AND VAULT COVERS SHALL BE FURNISHED WITH THE WORD "IRRIGATION" OR AN ACCEPTABLE ABBREVIATION, CLEARLY CAST ON THE SURFACE. IRRIGATION WATER MAIN VALVE BOX LIDS SHALL BE TRIANGULAR, AND IRRIGATION METER PIT COVERS SHALL BE CAP–TYPE COVERS TO DISTINGUISH THEM FROM THE RECESSED COVERS USED ON POTABLE WATER METER PITS.

27. ALL SANITARY SEWER LINES SHALL BE ASTM D–3034 (PVC SDR 35) UNLESS OTHERWISE NOTED.

28. ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 10.0' HORIZONTAL & 18" VERTICAL CLEARANCE FROM PROPOSED OR EXISTING WATER LINES & STORM DRAIN LINES.

29. ALL SANITARY SEWER SERVICES TO BE 4" DIAMETER PVC (SDR 35) & SHALL NOT HAVE A SLOPE LESS THAN 2% OR MORE THAN 8%.

PROJECT GENERAL NOTES:

1. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKID TYPE DEVICE AT LEAST 30 FEET IN LENGTH. THIS DEVICE SHALL BE USED ON ALL PASSES AND LIFTS OF BITUMINOUS PAVEMENT PLACED.
   - ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

2. TYPE OF COMPACTION FOR THIS PROJECT SHALL BE AASHTO T–99 (ASTM D698) (STANDARD PROCTOR) FOR SUBGRADE SOILS AND AASHTO T–180 (ASTM D1557) (MODIFIED PROCTOR) FOR AGGREGATE BASE COURSE.

3. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO SATISFACTORILY CONTROL DUST AT ALL TIMES, AND AS DIRECTED BY THE CITY. WATER SHALL BE USED AS THE DUST PALLIATIVE WHERE REQUIRED. THE CONTRACTOR WILL FURNISH AND SPREAD WATER AT NO ADDITIONAL COST TO THE PROJECT.

4. DEPTH OF MOISTURE–CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
   - BASE OF CUTS AND FILLS, 0.5 FT.
   - EXCAVATION AND DIGGING AS REQUIRED FOR THE COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

5. WHEN EXISTING ASPHALT PAVEMENT IS TO BE REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE, SAW OR OTHER METHODS AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER WORK.

6. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF OFF–SITE. LOCATION OF DUMP, LENGTH OF HAUL, AND DISPOSAL EXPENSES SHALL BE CONTRACTOR'S RESPONSIBILITY.

7. THE STREETS ADJACENT TO THE CONSTRUCTION AREA SHALL BE CLEARED OF DEBRIS GENERATED BY THE PROJECT BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL THE ROADS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS AT NO ADDITIONAL COST TO THE PROJECT.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE GRADING IN A MANNER CONSISTENT WITH THE PLANS.

9. THERE SHALL BE A MINIMUM 12" VERTICAL SEPARATION WHERE UTILITY SLEEVES ARE LOCATED IN THE SAME TRENCH.

10. CONTRACTOR SHALL SUBMIT AS–BUILT INFORMATION TO THE PROJECT ENGINEER TO REVIEW AND PREPARE FINAL AS–BUILT RECORD DRAWINGS.

11. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY OR EASEMENT SHALL CONFORM TO THE CITY OF FORT LUPTON CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.

12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.

13. THE CONTRACTOR SHALL NOTIFY CITY OF FORT LUPTON AT LEAST 24–HOURS PRIOR TO THE DESIRED INSPECTION.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.

15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

16. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION MUST BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSE SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.

18. PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED.

UTILITY MAINTENANCE STATEMENT:

1. ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENTS. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER MAINS AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

GENERAL NOTES – STORM DRAIN

1. SEE DETAIL SHEET NO. 39 DETAIL ST4, FOR STORM DRAIN BEDDING REQUIREMENTS.

2. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4–G BELL AND SPIGOT JOINTS.

3. ALL PVC STORM DRAINS SHALL BE SDR 35 PUSH–ON BELL & SPIGOT TYPE MEETING ASTM D1784, D3034 & D3212. ALL GASKETS SHALL BE OF AN O–RING TYPE IN ACCORDANCE WITH ASTM F477.

4. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF FORT LUPTON'S MOST RECENT STORM DRAINAGE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY.

5. STORM DRAIN PIPE MATERIAL SPECIFICATIONS ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE (RCP) – REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE," ASTM C–76, LATEST REVISION. SHOP DRAWINGS WILL BE REQUIRED WHEN STEEL PLACEMENT IS DIFFERENT THAN THAT SHOWN OR REQUIRED BY THE APPLICABLE ASTM SPECIFICATION. RCP SHALL BE CLASS III, UNLESS SPECIFIED OTHERWISE, AND OF THE SIZE INDICATED ON THE DRAWINGS. INTERNAL PIPE WALL SHALL BE REASONABLY SMOOTH AND FREE OF DEFECTS. PIPE THAT IS ROUGH OR UNEVEN SHALL BE REMOVED FROM THE JOB SITE.

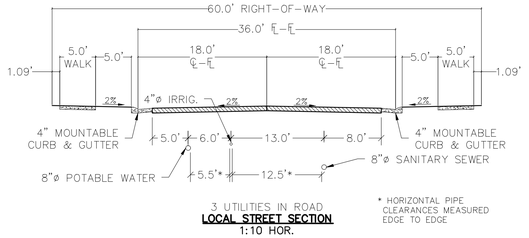
6. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT OF ALL POINTS OF CONNECTION AND UTILITY CROSSINGS PRIOR TO INSTALLING ANY STORM DRAIN PIPE. IF A DESIGN MODIFICATION IS REQUIRED IT SHALL BE COORDINATED WITH THE ENGINEER.

GEOTECHNICAL NOTES:

A GEOTECHNICAL REPORT "PRELIMINARY GEOTECHNICAL INVESTIGATION – COTTONWOOD GREENS SUBDIVISION" HAS BEEN PREPARED BY CTL THOMPSON, INC., PROJECT NO. DN50,350–115–R1, DATED JANUARY 31, 2020. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS.

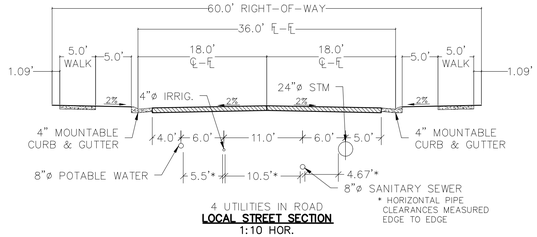
ALLOWABLE PAVEMENT SECTION THICKNESS (INCHES)

	ASPHALT CONCRETE SURFACE	AGGREGATE BASE COURSE	FULL DEPTH ASPHALT	PORTLAND CEMENT CONCRETE
PARKING LOT	6.5"	–	–	–
DRIVE LANES HEAVY TRUCK TRAFFIC	7.5"	6"	–	–
FULL DEPTH	–	–	–	–



3 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE



4 UTILITIES IN ROAD
LOCAL STREET SECTION
1:10 HOR.

* HORIZONTAL PIPE CLEARANCES MEASURED EDGE TO EDGE

LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- EXISTING RIGHT–OF–WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CATCH CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- EXISTING SECTION LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- PROPOSED CONTOURS
- EXISTING CONTOURS
- PROPOSED SANITARY
- SS EXISTING SANITARY
- S PROPOSED SANITARY SERVICE
- PROPOSED STORM
- EXISTING STORM
- PROPOSED WATER
- W W EXISTING WATER
- W PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- EXISTING WATER VALVE
- EXISTING POWER POLE
- IRR IRR EXISTING IRRIGATION LINE
- GAS EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- OHE EXISTING OVERHEAD ELECTRICAL
- E E E E EXISTING ELECTRICAL
- CATV EXISTING CABLE TV
- FO FO FO EXISTING FIBER OPTIC CABLE
- X X EXISTING FENCE

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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303.462.1100

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SUITE 250
NEWPORT BEACH, CA 92660
303–905–3496
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CLIENT
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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

NOTES, LEGEND & TYPICAL SECTIONS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 2

CAD FILE: 21002209–F10–COVER SHEET.DWG

FUTURE 14TH STREET

COUNTY ROAD 31

FILING NO. 7

FILING NO. 6

FILING NO. 5

FILING NO. 8

FILING NO. 10

FILING NO. 9

FILING NO. 4

FILING NO. 1–3

TRACT A

TRACT H

TRACT C

COLLEGE AVENUE

9TH STREET

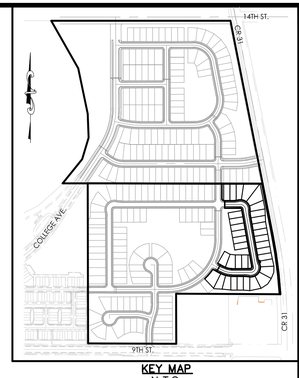
9TH ST.

A ST.

PECAN AVE.

ALDER ST.

BIRCH AVE.



KEY MAP
N.T.S.

150 0 150 300

(IN FEET)
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NEWPORT BEACH, CA 92660
303-905-3496

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

PHASING PLAN

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

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P.M. DJR
JOB 21002209
SHEET NO. 3

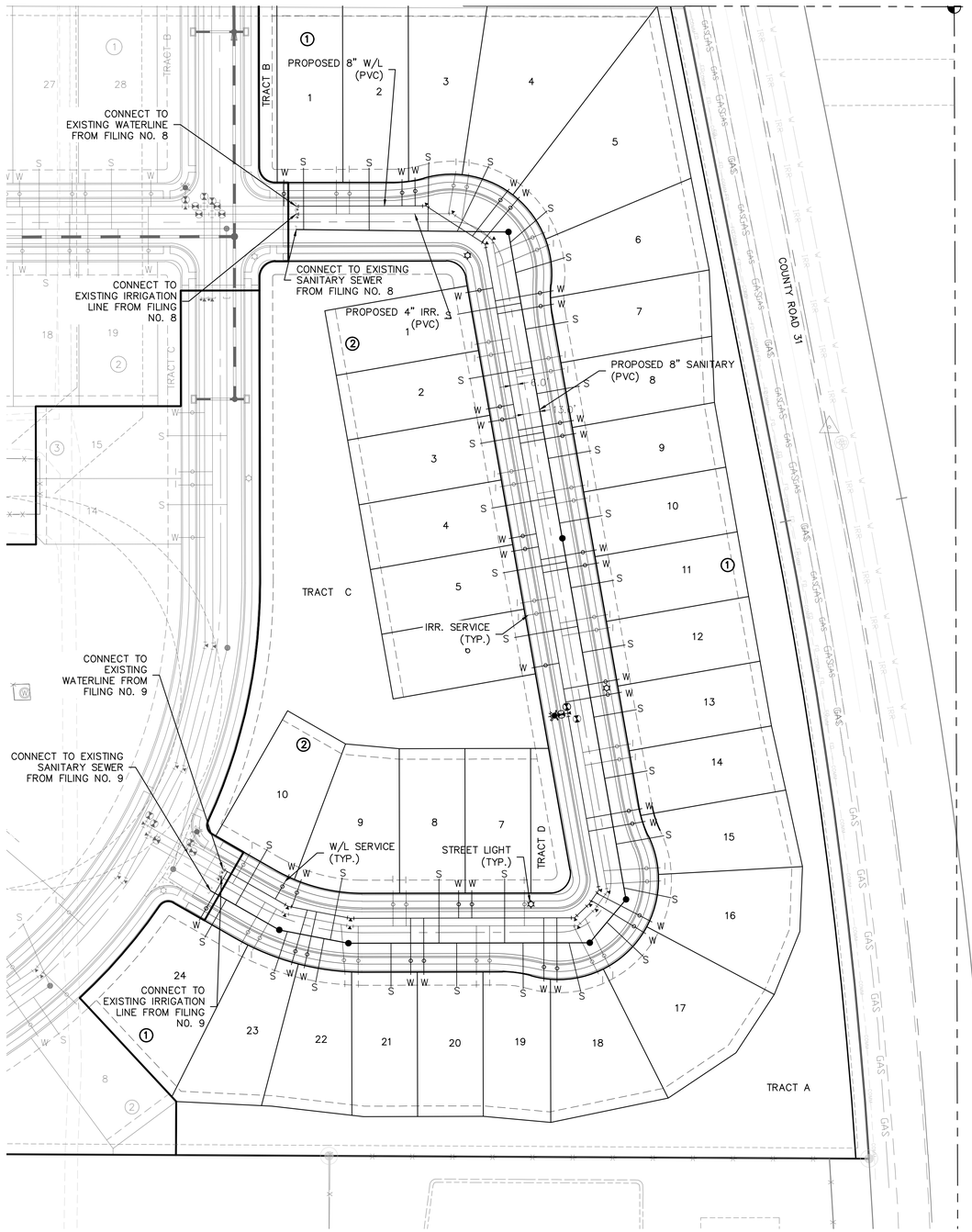
PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

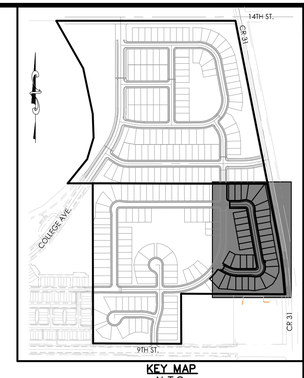
BENCHMARK:

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KEY MAP
N.T.S.

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OVERALL UTILITY NOTES:

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50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

OVERALL UTILITY

DATE 2/8/2022

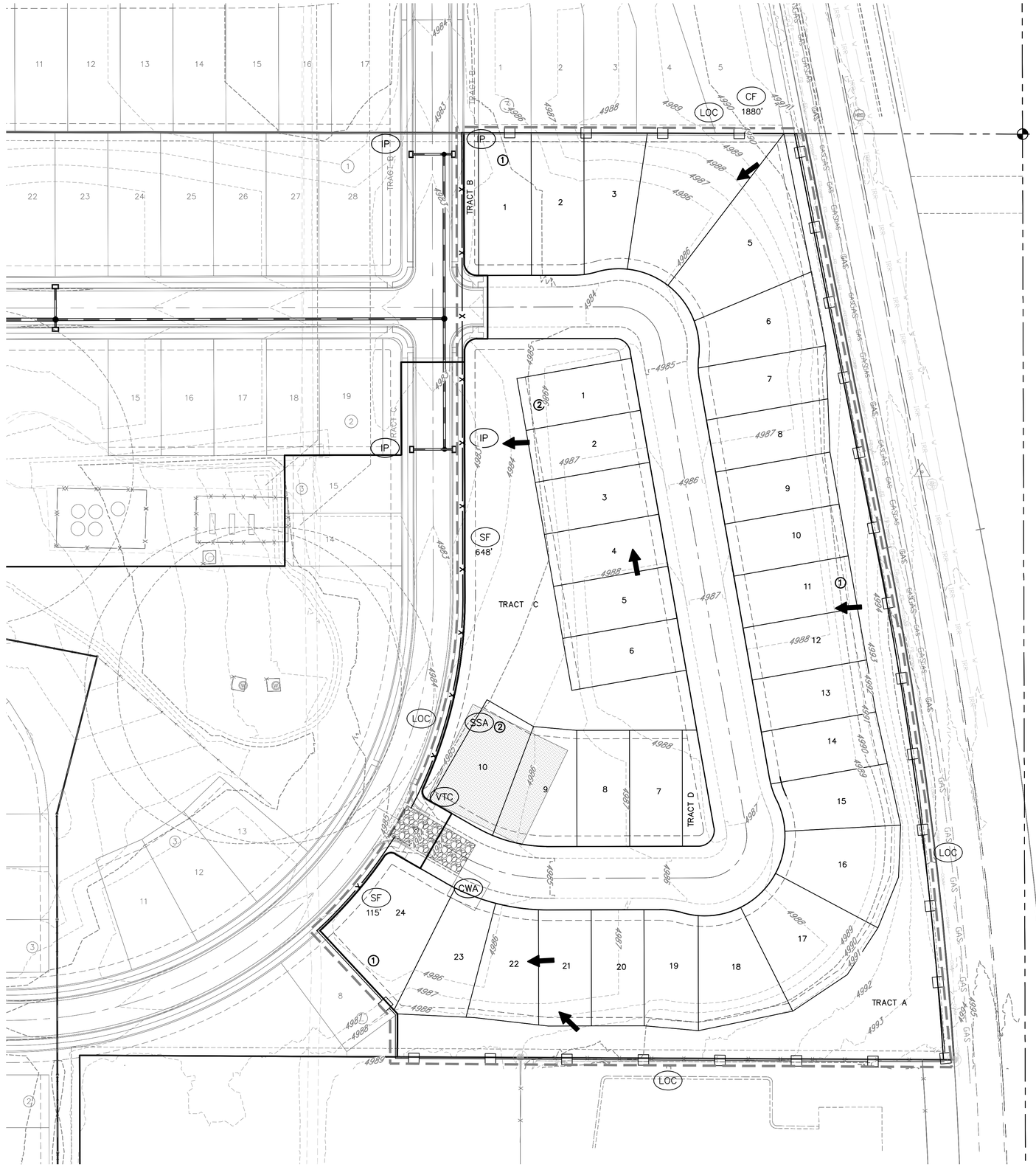
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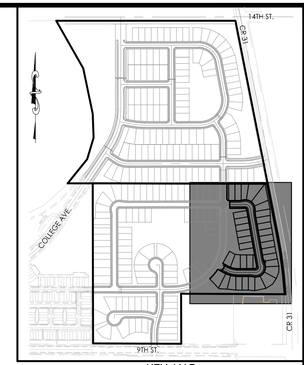
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P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-F10-OVERALL UTILITY.DWG

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KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
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LEGEND
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

NOTES:

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2. SEE DETAILS FOR MORE INFO ON EACH BMP NAMES AND SYMBOLS.
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GRADING AND EROSION CONTROL LEGEND

SF	SILT FENCE
IP	INLET PROTECTION
RRC	CULVERT PROTECTION
VTC	VEHICLE TRACKING CONTROL
CWA	CONCRETE WASHOUT AREA
SSA	STABILIZED STAGING AREA
SM	SEEDING AND MULCHING
LOC	LIMITS OF CONSTRUCTION
CF	CONSTRUCTION FENCE
DD	DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC INTERIM

DATE 2/8/2022

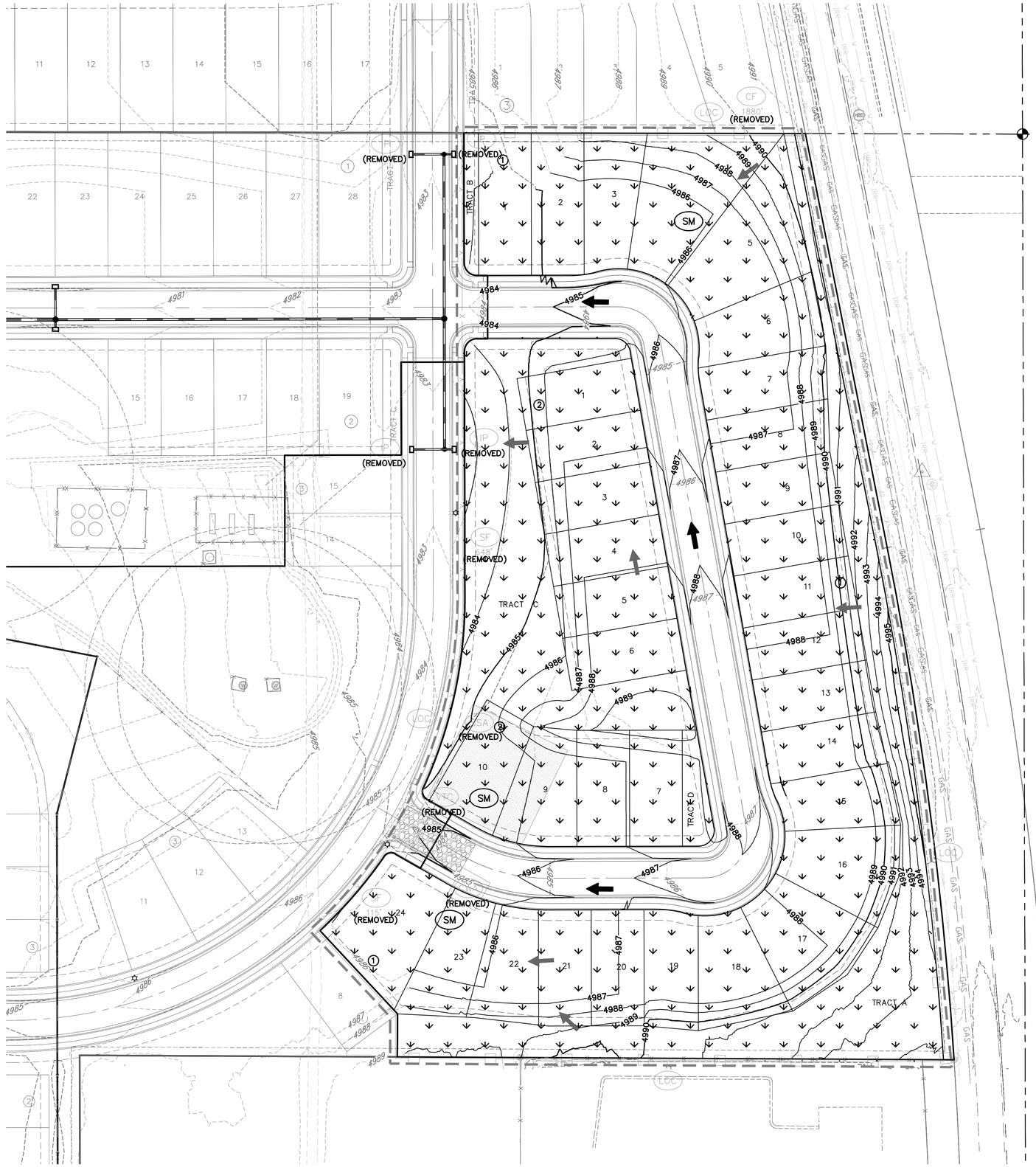
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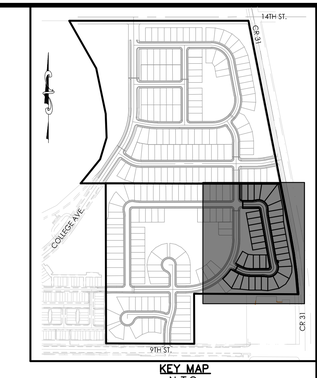
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SHEET NO. 5

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KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW ARROWS

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- SM — SEEDING AND MULCHING
- LOC — LIMITS OF CONSTRUCTION
- CF — CONSTRUCTION FENCE
- DD — DIVERSION DITCH

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC FINAL

DATE 2/8/2022

REVISIONS

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P.M. DJR
JOB 21002209
SHEET NO. 5

CAD FILE: 21002209-GESC FINAL - F10.DWG

TITLE	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
STORM DRAIN INLET PROTECTION	IP	
MULCHING	MU	

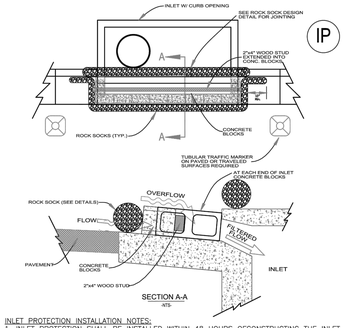
DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC1
	DATE: 8/15/14

TITLE	KEY	SYMBOL
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
PERMANENT SEEDING	PS	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
SEDIMENT BASIN	SB	
STRAW BALE BARRIER	SBB	
SILT FENCE	SF	
SURFACE ROUGHENING	SR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC2
	DATE: 8/15/14

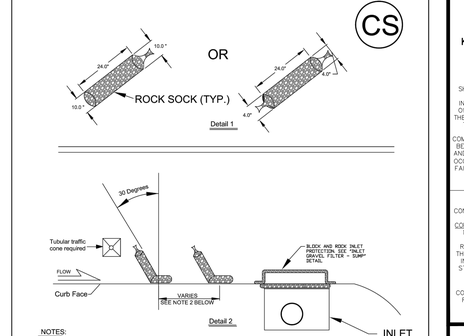
TITLE	KEY	SYMBOL
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
SEDIMENT LOG	SCL	
TERRACING	TER	
TEMPORARY SEEDING	TS	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE TYPE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DESIGN STANDARDS	STANDARD DRAWING
MAP SYMBOLS	EC3
	DATE: 8/15/14



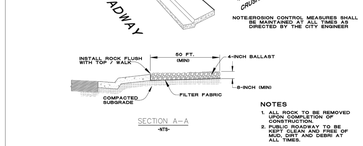
INLET PROTECTION INSTALLATION NOTES:
1. INLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OFCONSTRUCTING THE INLET.
2. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
3. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
4. GRAVEL SOCKS SHALL BE PLACED AROUND THE CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED IN ACCORDANCE WITH THE ROCK SOCK DESIGN DETAIL.

DESIGN STANDARDS	STANDARD DRAWING
INLET GRAVEL FILTER - SUMP	EC5
	DATE: 8/15/14



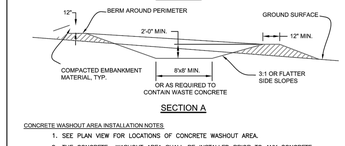
NOTES:
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE. SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
ON GRADE INLET PROTECTION	EC 6
	DATE: 8/15/14



NOTES
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT, AND DEBRI AT ALL TIMES.

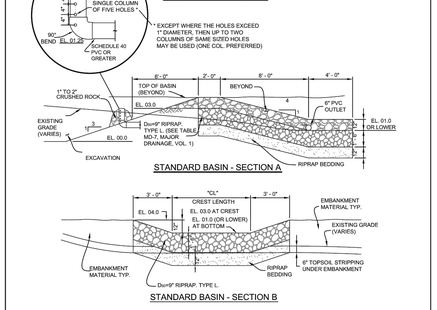
DESIGN STANDARDS	STANDARD DRAWING
VEHICLE TRACKING PAD	EC 8
	DATE: 8/15/14



CONCRETE WASHOUT AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TROUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE WASHOUT AREA	EC 9
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT BASIN DETAILS	EC 11
	DATE: 8/15/14



SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	9/32
2	21	3	13/16
3	28	5	1/2
4	33 1/2	6	9/16
5	38 1/2	8	21/32
6	43	9	21/32
7	47 1/4	11	25/32
8	51	12	27/32
9	55	13	7/8
10	58 1/4	15	15/16
11	61	16	31/32
12	64	18	1
13	67 1/2	19	1 1/16
14	70 1/2	21	1 1/8
15	73 1/4	22	1 3/16

Minimum Bottom Width and diameter of outlet plate holes based on 2,700 cu. ft. / acre of tributary area and 72 hour drain time.

SEDIMENT BASIN INSTALLATION NOTES
1. SEE PLAN VIEW AND SECTIONS FOR:
   - LOCATION OF SEDIMENT BASIN
   - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN),
   - FOR STANDARD BASIN, BOTTOM WIDTH, "W", CREST LENGTH, "CL", AND HOLE DIAMETER, "HD"
   - FOR NONSTANDARD BASIN, SEE THE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT, "H", NUMBER OF COLUMNS, "N", HOLE DIAMETER, "HD", AND PIPE DIAMETER "D".
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D 698.
6. PIPE SCH 40 OR GREATER SHALL BE USED.
7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) IDENTIFIED ON THE SWMP PLAN VIEW DRAWINGS USED FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SEDIMENT BASIN MAINTENANCE NOTES
1. THE SWMP MANAGER SHALL INPSECT SEDIMENT BASIN WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED WHEN SEDIMENT DEPTH IS ONE FOOT (I.E., 2-FEET BELOW THE SPILLWAY CREST).
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY.
4. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY THE CITY.

DESIGN STANDARDS	STANDARD DRAWING
SEDIMENT BASIN SIZING & NOTES	EC 12
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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FORT LUPTON, COLORADO
GESC PLANS
GESC PLANS
GESC DETAILS

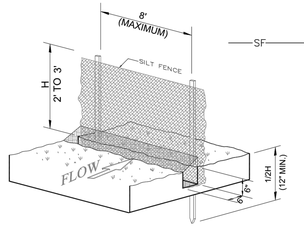
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

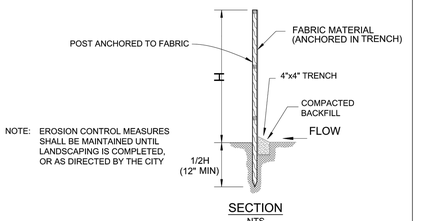
DR. EP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 7

CAD FILE: 21002209-GESC DETAILS.DWG



SILT FENCE INSTALLATION

-NTS-



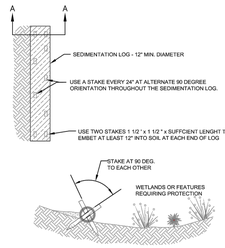
NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED, OR AS DIRECTED BY THE CITY

SECTION

-NTS-

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SILT FENCE	EC 15
		DATE: 8/15/14

SCL



SECTION A - A

SEDIMENT CONTROL LOG INSTALLATION NOTES

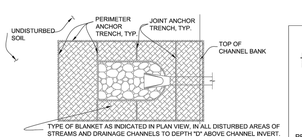
1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

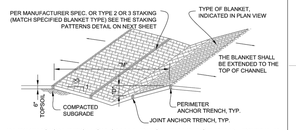
1. THE SWMP MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	SEDIMENT CONTROL LOGS	EC 16
		DATE: 8/15/14

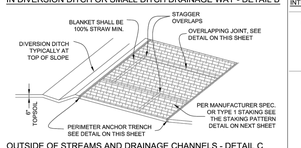
ECB



AT PIPE OUTLET AREAS OF STREAMS AND DRAINAGE CHANNELS - DETAIL A

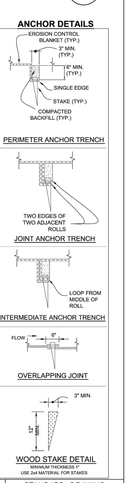


IN DIVERSION DITCH OR SMALL DITCH DRAINAGE WAY - DETAIL B



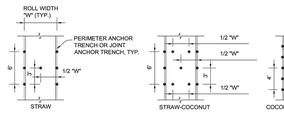
OUTSIDE OF STREAMS AND DRAINAGE CHANNELS - DETAIL C

ANCHOR DETAILS



CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET DETAILS	EC 17
		DATE: 8/15/14

ECB



STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE DEVELOPER SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE, NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE

TABLE 7.1 - EROSION CONTROL BLANKET TYPE

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT*	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

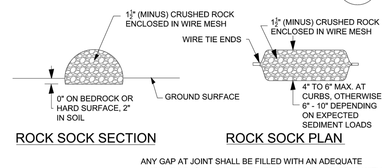
* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS DIRECTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

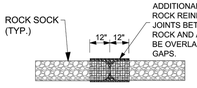
CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	EROSION BLANKET INSTALLATION AND MAINTENANCE NOTES	EC 18
		DATE: 8/15/14

RS



ROCK SOCK SECTION

ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO THE ENDS OF THE ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12 - INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
¾"	0 - 15
⅜"	0 - 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FORLOCATION OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 11/2 " (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OD 10 GAGE POULTRY MESH OR EQUIVALENT WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

CITY OF FORT LUPTON	DESIGN STANDARDS	STANDARD DRAWING
COME PAINT YOUR FUTURE WITH US.	ROCK SOCK DETAIL	EC 19
		DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

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NOTICE:
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866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

GESC PLANS
GESC PLANS
GESC DETAILS

DATE 2/8/2022

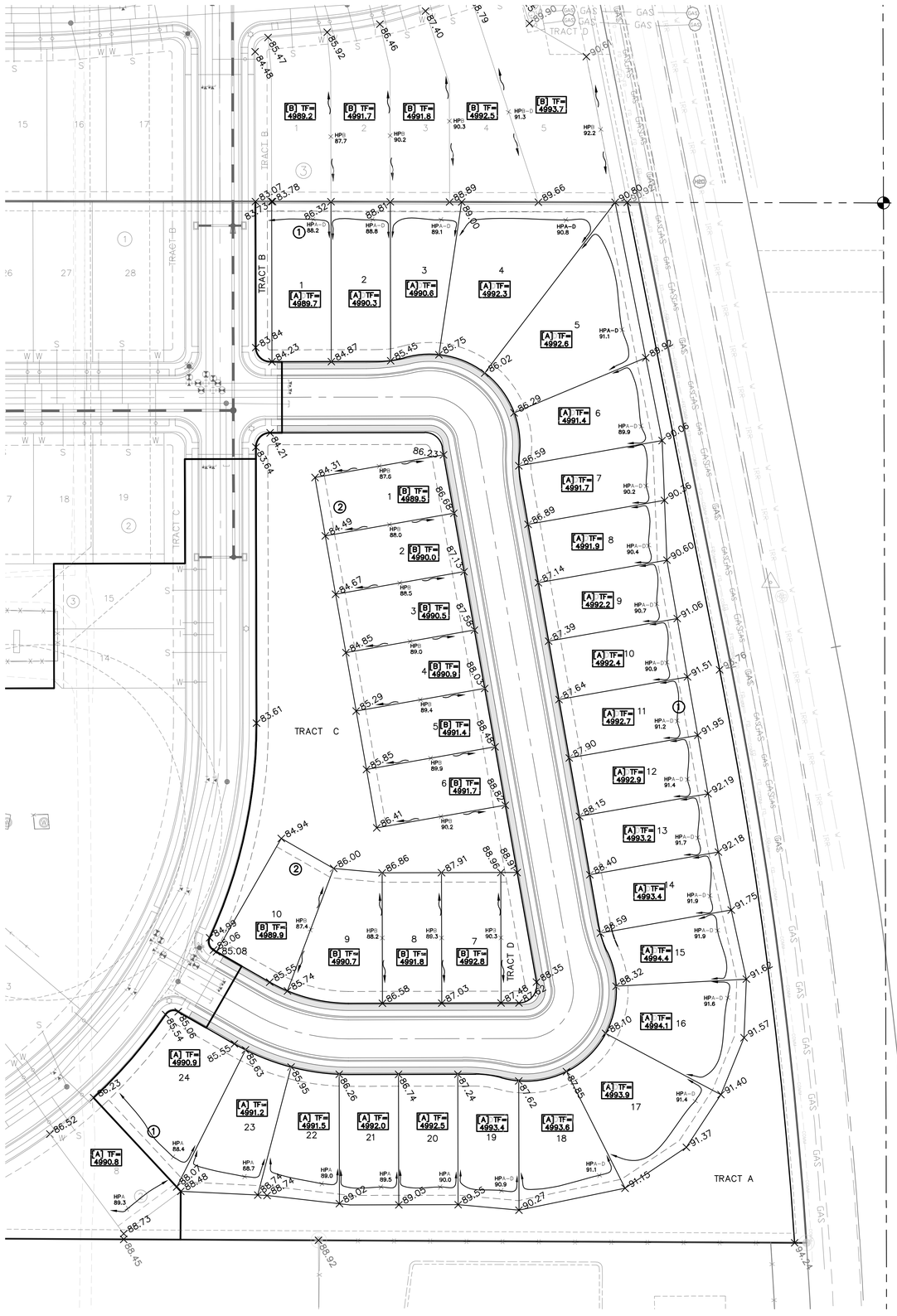
REVISIONS

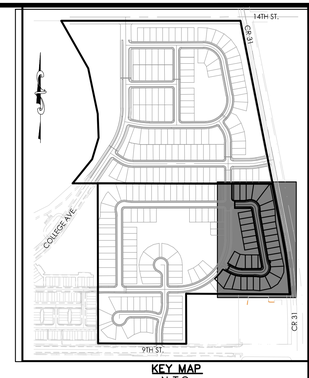
PLANS UNDER REVIEW
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P.M. DJR
JOB 21002209
SHEET NO. 8

CAD FILE: 21002209-GESC DETAILS.DWG

DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION





KEY MAP
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NOTES:

1. SEE FILING NO. 5 FOR OVERLOT GRADING.
2. ALL ELEVATIONS SHOWN ON THIS PLAN ARE FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. TOP OF FOUNDATION ELEVATIONS SHOWN ARE MINIMUM.
4. ALL GRASS-LINED DRAINAGE SWALES TO BE 2.00% MINIMUM.
5. OWNER/CONTRACTOR MUST OBTAIN N.P.D.E.S. STORM WATER DISCHARGE PERMIT FROM CO. DEPT. OF HEALTH IF REQUIRED.
6. HOUSES MAY REQUIRE STEPS BETWEEN GARAGE SLAB & FINISHED FLOOR OF HOME. NUMBER OF STEPS TO BE DETERMINED DURING PLOT PLAN PREPARATION. REFER TO PLOT PLAN FOR FINAL DRIVEWAY AND WALK INFORMATION.
7. DETAIL GRADING SHOWN ASSUMES BASEMENTS. CONFIRM WITH FINAL ARCHITECTURE.
8. WHERE SANITARY SEWER DEPTH IS LESS THAN 11', ADDITIONAL STEPS WERE ASSUMED IN THE GARAGE. IF BASEMENTS ARE NOT INCLUDED WITH FINAL ARCHITECTURE, THESE STEPS MAY BE REVISITED DURING PLOT PLAN PREPARATION.
9. A OR B LOTS THAT INCLUDE A "D" SUFFIX ARE DEEP LOTS. THESE LOTS ARE GENERALLY GREATER THAN 140' DEPTH AND/OR REQUIRE STEEPER SIDE YARD GRADES. AN EXPRESSION WAS USED TO CALCULATE HIGHER LOT CORNERS AND BUILDING ELEVATIONS FOR THESE DEEP LOTS. SEE PLOT PLAN FOR FINAL GRADING.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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SUITE 250
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CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS

DETAIL GRADING PLAN

DATE 2/8/2022

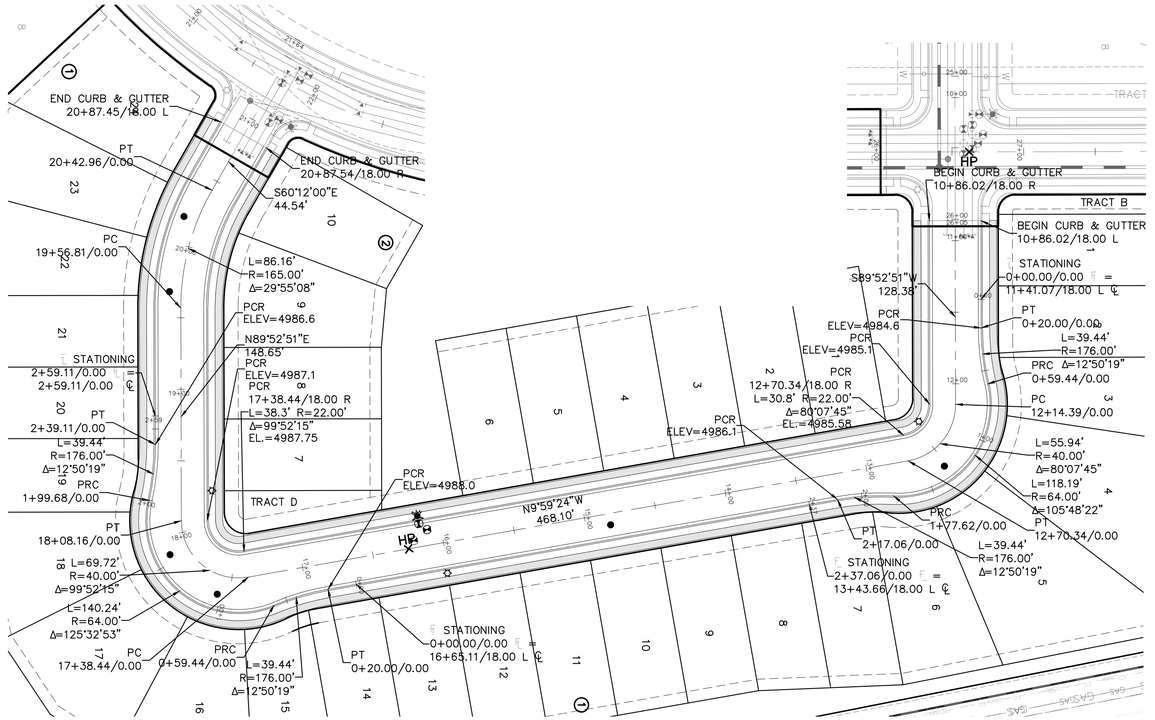
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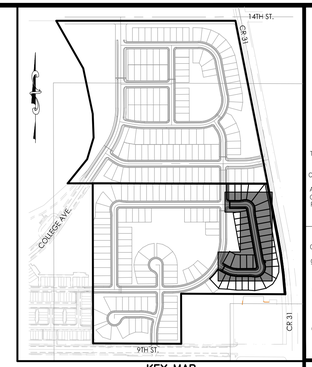
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P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-FTO-DETAIL GRADING.DWG

DESCRIPTION AND DEPICTION OF SURVEY CONTROL AND RIGHT-OF-WAY SHOWN HEREON IS BASED ON THE PLAT OF BRIGHTON LOCAL





KEY MAP
N.T.S.

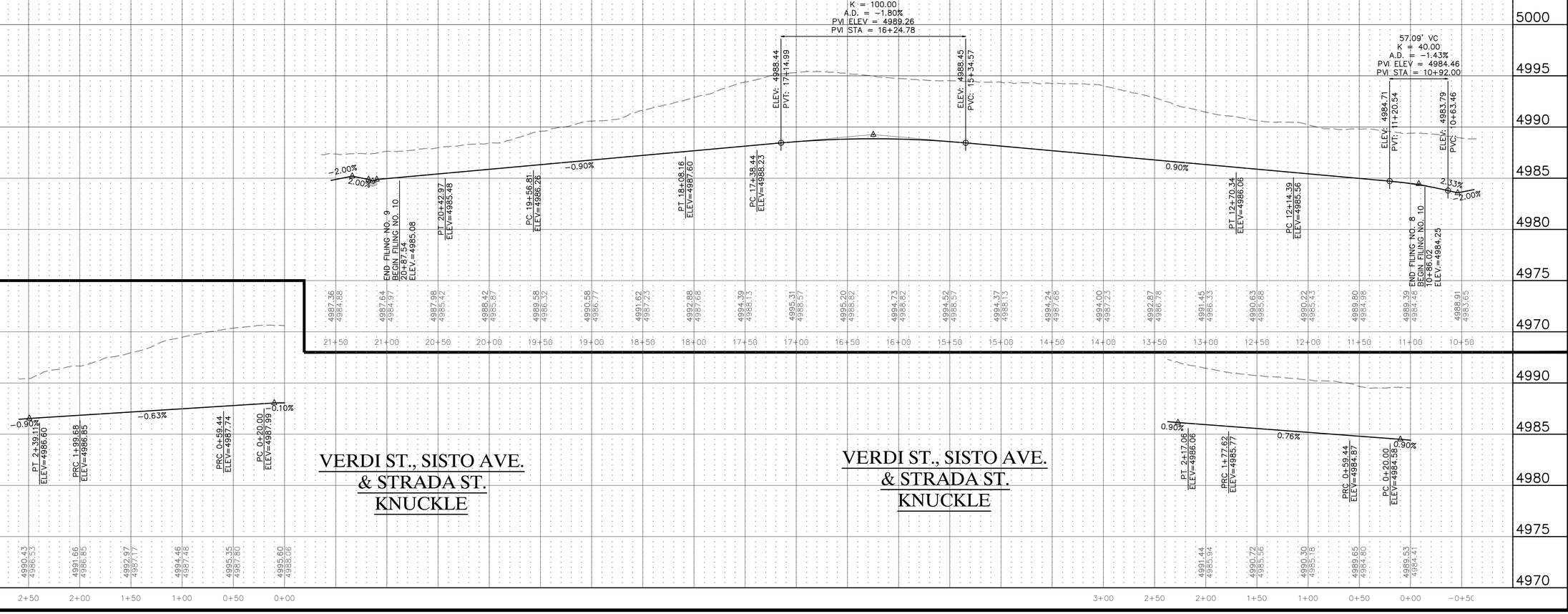
(IN FEET)
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1 inch = 5 ft. (Vert)

PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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NGS "4907" (NAVD88 EL=4908.22)



VERDI ST., SISTO AVE. & STRADA ST.

VERDI ST., SISTO AVE. & STRADA ST. KNUCKLE

VERDI ST., SISTO AVE. & STRADA ST. KNUCKLE

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
STREET PLAN & PROFILE
VERDI ST., SISTO AVE. & STRADA ST.

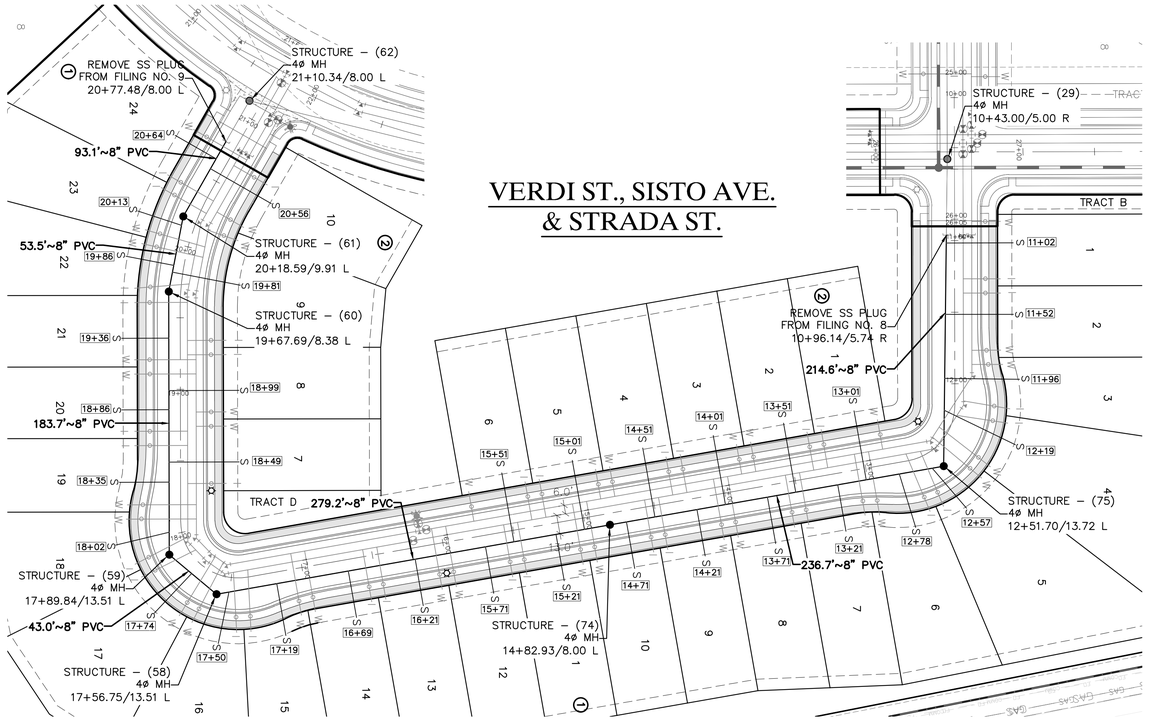
DATE 2/8/2022

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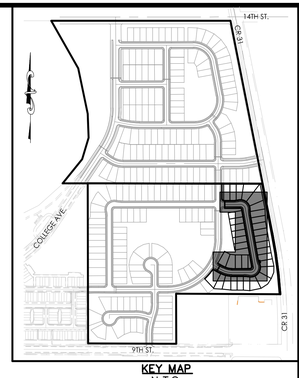
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JOB 20002948
SHEET NO. 10

CAD FILE: 21002209-FTO-STREET.DWG



NOTES:

1. ALL SANITARY SEWER PIPE SHALL BE SDR–35.
2. SANITARY SEWER SERVICES SHALL EXTEND INTO EACH LOT 1' BEYOND THE UTILITY EASEMENT.
3. SANITARY SEWER SERVICES SHALL HAVE A MINIMUM SLOPE OF 2%.
4. ANY MANHOLES OVER 17' DEEP WILL REQUIRE AN INTERMEDIATE LANDING, PER DETAIL SS5.



KEY MAP
N.T.S.

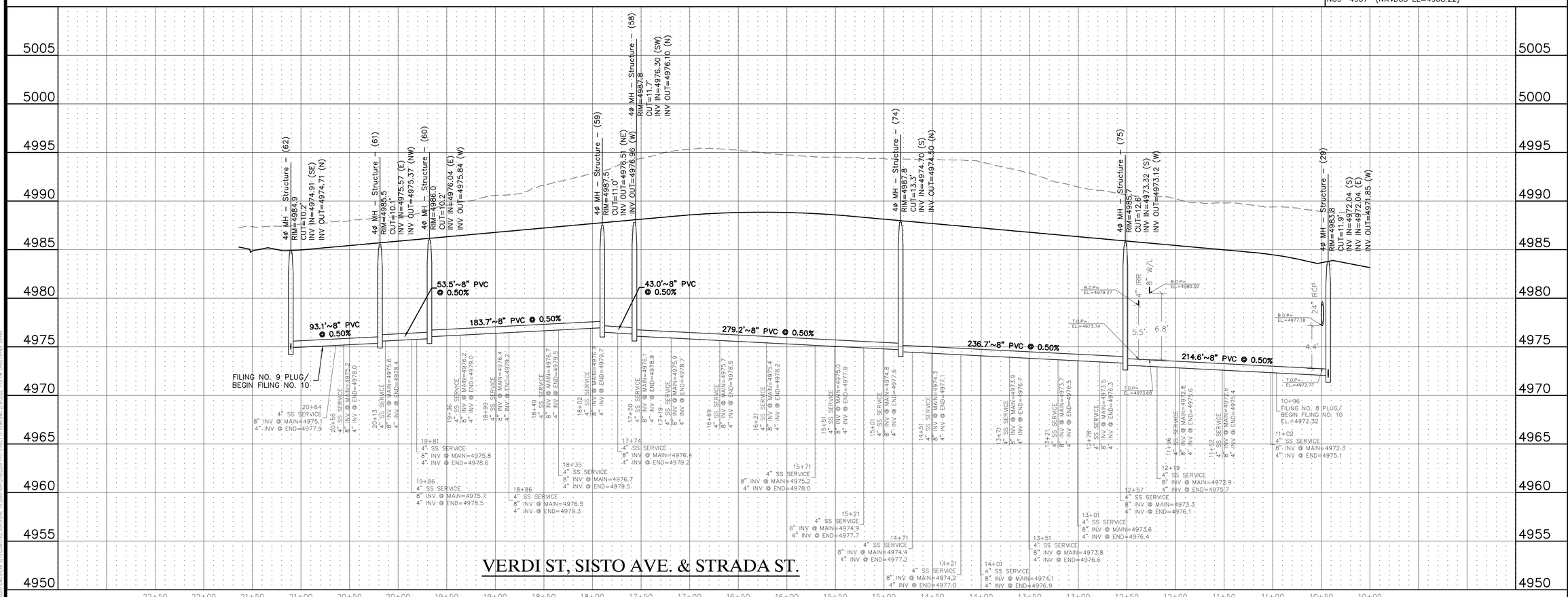
(IN FEET)
1 inch = 50 ft. (Horz)
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PROJECT NO.: LUP2021–XXXX &
PLAN NO.: PPL2021–XXXX

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
SANITARY SEWER PLAN & PROFILE
VERDI ST., SISTO AVE. & STRADA ST.

DATE 2/8/2022

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PLANS UNDER REVIEW NOT FOR CONSTRUCTION

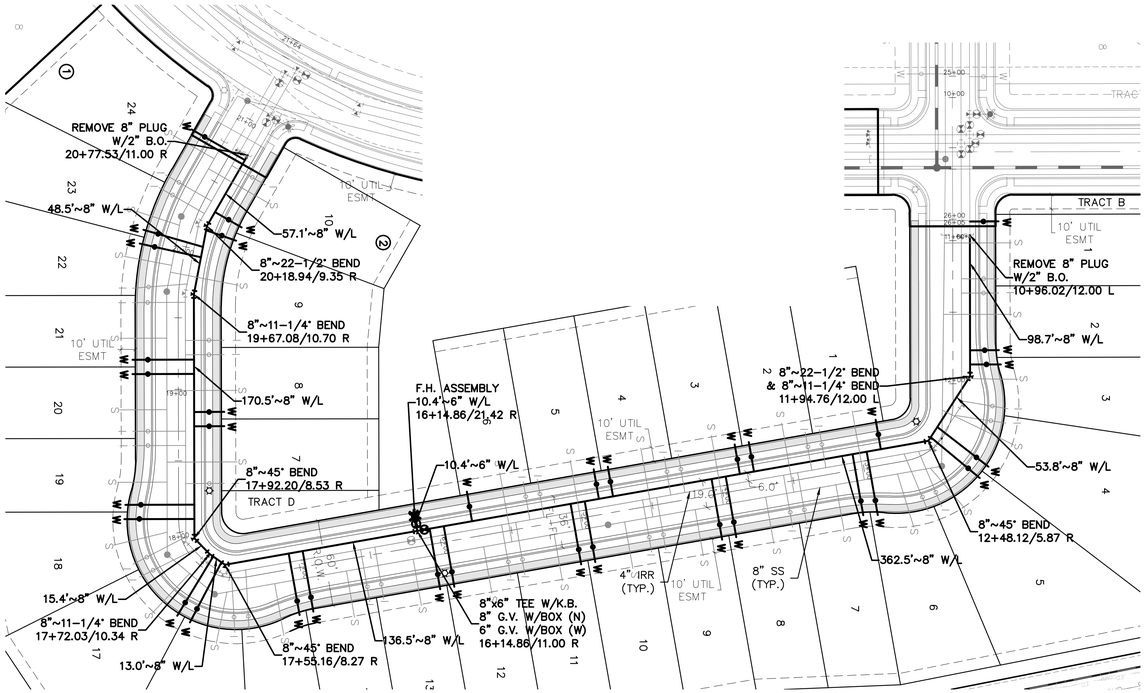
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SHEET NO. 11

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VERDI ST., SISTO AVE. & STRADA ST.



KEY MAP
N.T.S.

50 0 50 100

(IN FEET)
1 inch = 50 ft. (Horz)
1 inch = 5 ft. (Vert)

NOTES:

1. ALL WATER SERVICE LINES SHALL BE 3/4" THROUGH 2 INCHES SHALL BE COPPER AND SHALL BE INSTALLD CONTINUOUS WITHOUT JOINTS BETWEEN THE CORPORATION STOP AT THE WATER MAIN AND THE METER OF CURB STOP.

2. ALL WATER LINES SHALL BE PVC C900 EXCEPT FOR ANY FIRE HYDRANT CONNECTION. ALL FIRE HYDRANT CONNECTIONS SHALL BE DIP.

3. ALL FIRE HYDRANTS SHALL BE "RED MUELLER SUPER CENTURION" HYDRANTS.

4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

5. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
WATER PLAN
VERDI ST., SISTO AVE. & STRADA ST.

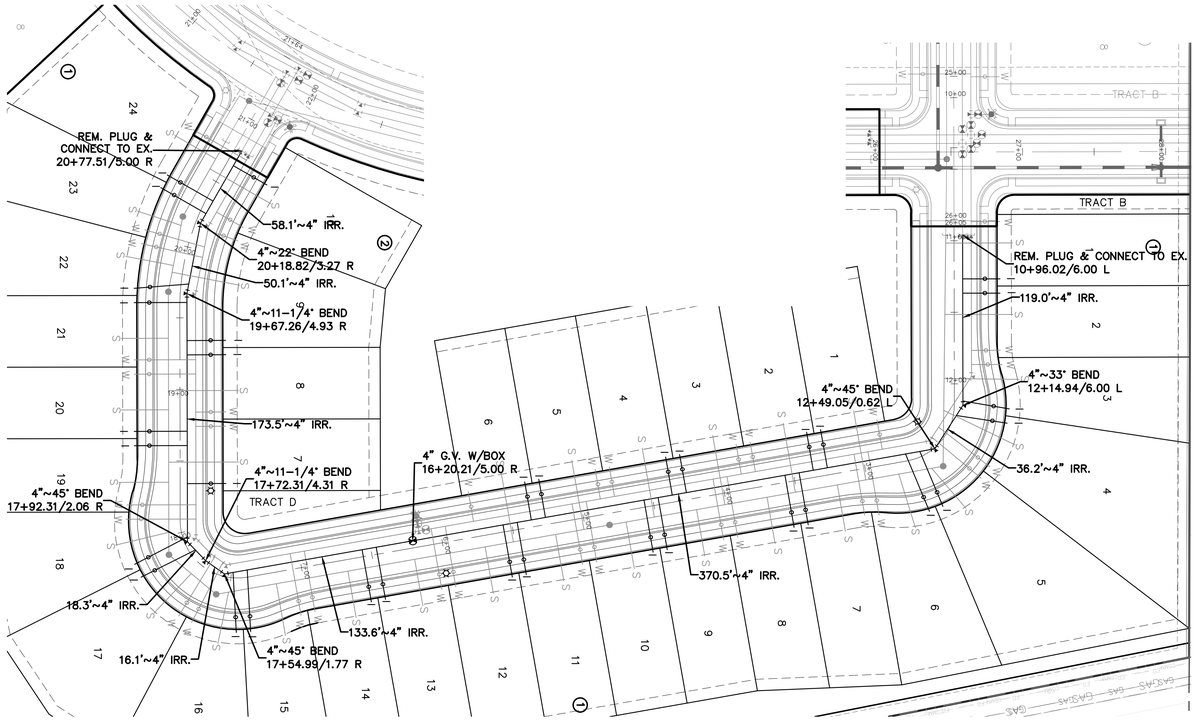
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P.M. DJR
JOB 21002209
SHEET NO. 12

CAD FILE: 21002209-FTG-WATER PLAN-01.DWG



VERDI ST., SISTO AVE. & STRADA ST.



KEY MAP
N.T.S.

50 0 50 100
(IN FEET)
1 inch = 50 ft.

NOTES:

1. ALL IRRIGATION MAINS LINES SHALL BE PVC C900 PURPLE PIPE.

2. CONTRACTOR TO FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.

3. ALL WATER MAINS, FIRE HYDRANTS, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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SUITE 250
NEWPORT BEACH, CA 92660
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FORT LUPTON, COLORADO

CONSTRUCTION PLANS
IRRIGATION PLAN
VERDI ST., SISTO AVE. & STRADA ST.

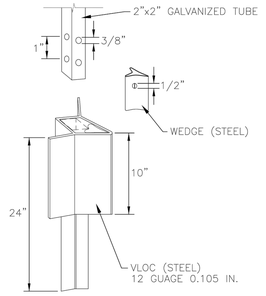
DATE 2/8/2022

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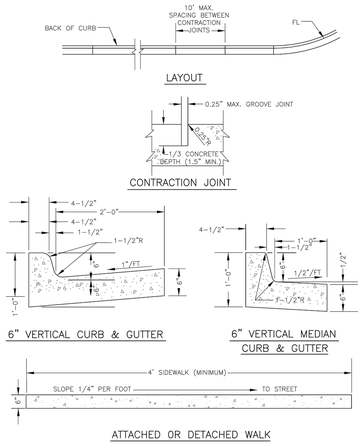
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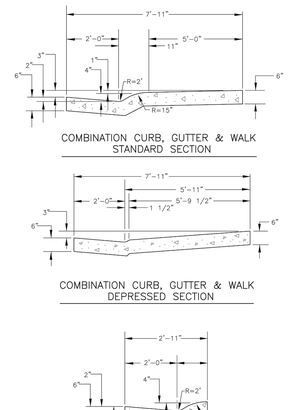
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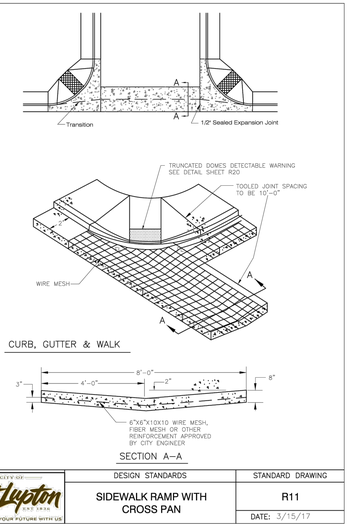
CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14



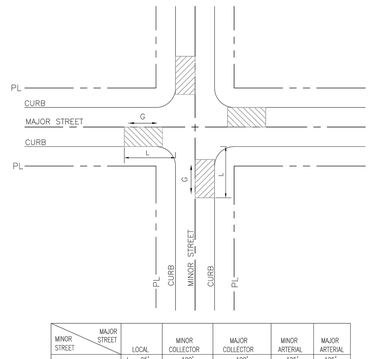
CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14



CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SIDEWALK RAMP WITH CROSS PAN	R11
		DATE: 3/15/17



MINOR STREET \ MAJOR STREET		LOCAL	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL	L	95'	100'	100'	125'	125'
	G	4%	4%	4%	4%	4%
MINOR COLLECTOR	L	--	100'	120'	150'	150'
	G	--	4%	3%	3%	3%
MAJOR COLLECTOR	L	--	--	120'	150'	200'
	G	--	--	3%	3%	3%
MINOR ARTERIAL	L	--	--	--	200'	200'
	G	--	--	--	2%	2%
MAJOR ARTERIAL	L	--	--	--	--	200'
	G	--	--	--	--	2%

CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	MAXIMUM PERMISSIBLE INTERSECTION GRADE	R19
		DATE: 8/15/14

CITY OF Fort Lupton EST. 1926 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	TYPICAL SIGN POST ANCHOR DETAIL	T2
		DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

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SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

CLIENT: COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
STREET DETAILS

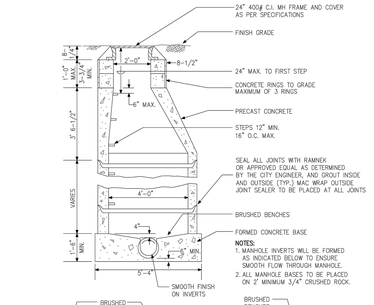
DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

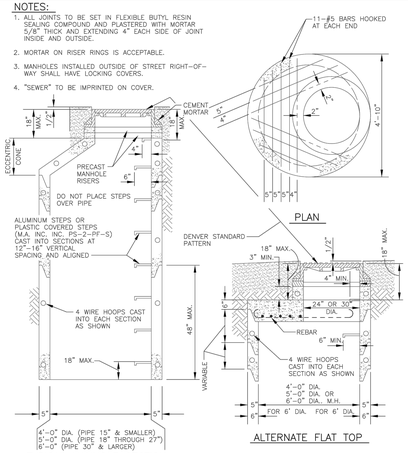
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CAD FILE: 21002209-FTL-STREET DETAILS.DWG



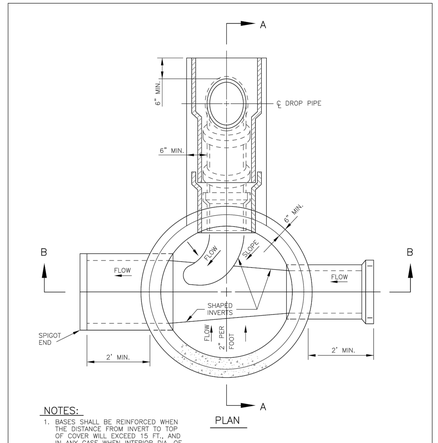
DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14

NOTES:
1. ALL JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND PLASTERED WITH MORTAR 5/8" THICK AND EXTENDING 4" EACH SIDE OF JOINT INSIDE AND OUTSIDE.
2. MORTAR ON RISER RINGS IS ACCEPTABLE.
3. MANHOLES INSTALLED OUTSIDE OF STREET RIGHT-OF-WAY SHALL HAVE LOCKING COVERS.
4. "SEWER" TO BE IMPRINTED ON COVER.



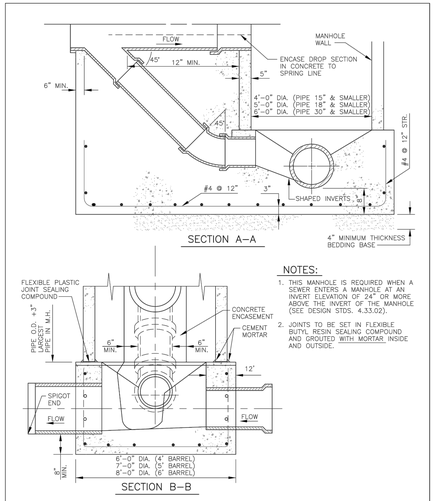
TYPICAL MANHOLE SECTION WITH ECCENTRIC CONE

DESIGN STANDARDS	STANDARD DRAWING
MANHOLE BARRELS AND ALTERNATE TOPS	SS2
	DATE: 8/15/14



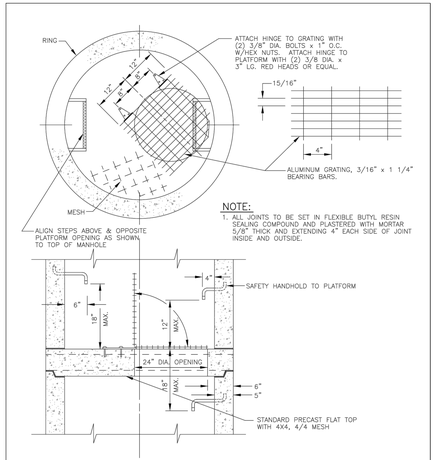
NOTES:
1. BASES SHALL BE REINFORCED WHEN THE DISTANCE FROM INVERT TO TOP OF COVER WILL EXCEED 15 FT., AND IN ANY CASE WHEN INTERIOR DIA. OF MANHOLE IS 5' AND LARGER.
2. SQUARE BASES ARE ACCEPTABLE.

DESIGN STANDARDS	STANDARD DRAWING
MONOLITHIC BASES FOR DROP MANHOLE	SS3
	DATE: 8/15/14



NOTES:
1. THIS MANHOLE IS REQUIRED WHEN A SEWER ENTERS A MANHOLE AT AN INVERT ELEVATION OF 24" OR MORE ABOVE THE INVERT OF THE MANHOLE (SEE DESIGN STDS. 4.33.02).
2. JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND GROUTED WITH MORTAR INSIDE AND OUTSIDE.

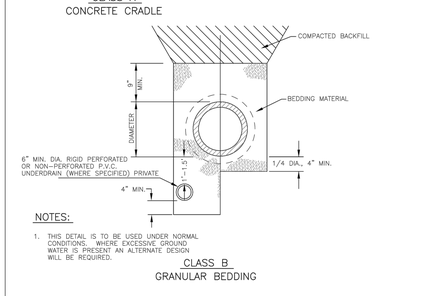
DESIGN STANDARDS	STANDARD DRAWING
DROP MANHOLE DETAIL	SS4
	DATE: 8/15/14



NOTE:
1. ALL JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND PLASTERED WITH MORTAR 5/8" THICK AND EXTENDING 4" EACH SIDE OF JOINT INSIDE AND OUTSIDE.

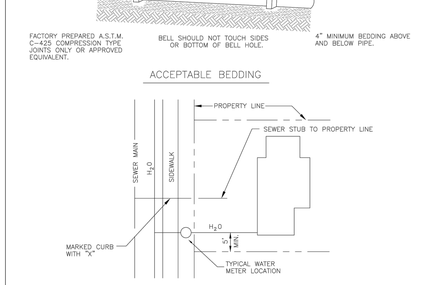
TO BE USED WHEN THE DISTANCE FROM INVERT TO TOP OF COVER EXCEEDS 17 FT.

DESIGN STANDARDS	STANDARD DRAWING
INTERMEDIATE PLATFORM FOR MANHOLES 17' IN DEPTH	SS5
	DATE: 8/15/14

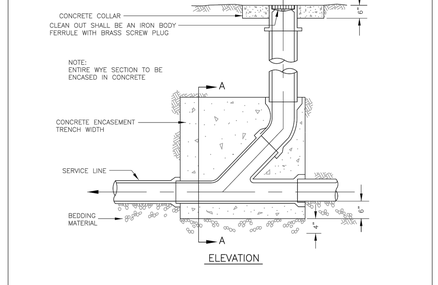


NOTES:
1. THIS DETAIL IS TO BE USED UNDER NORMAL CONDITIONS. WHERE EXCESSIVE GROUND WATER IS PRESENT AN ALTERNATE DESIGN WILL BE REQUIRED.

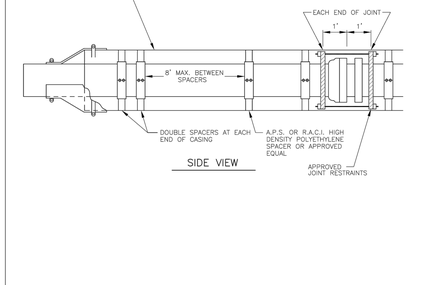
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14



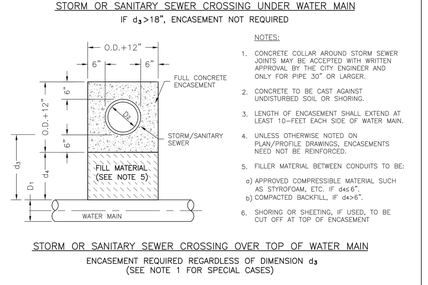
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL HOUSE SERVICE LOCATION	SS7
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
STANDARD CLEAN-OUT DETAIL	SS8
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
JACKING DETAIL	SS9
	DATE: 8/15/14



NOTES:
1. CONCRETE COLLAR AROUND STORM SEWER JOINTS MAY BE ACCEPTED WITH WRITTEN APPROVAL BY THE CITY ENGINEER AND ONLY FOR PIPE 30" OR LARGER.
2. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
3. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 10-FEET EACH SIDE OF WATER MAIN.
4. UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, ENCASEMENTS NEED NOT BE REINFORCED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d_4≤6".
   b) COMPACTED BACKFILL, IF d_4>6".
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN
ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3
(SEE NOTE 1 FOR SPECIAL CASES)

DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

Know what's below. Call before you dig.
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.
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NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
SANITARY DETAILS

DATE 2/8/2022

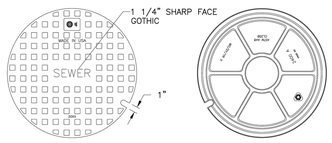
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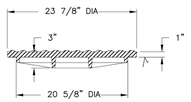
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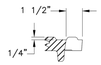
2400A Cover



COVER BACK



SECTION



PICKSLOT DETAIL

Product Number
00340023
Design Features
-Materials
Gray Iron (CL30B)
-Design Load
Heavy Duty
-Coating
Undipped
-- - Designates Machined Surface

Certification
- ASTM A48
-Country of Origin USA

	DESIGN STANDARDS	STANDARD DRAWING
CITY OF Fort Lupton COLORADO COME PAINT YOUR FUTURE WITH US	SANITARY SEWER MANHOLE LID	SS12
		DATE: 5/04/2017

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
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DETAILS
SANITARY DETAILS

DATE 2/8/2022

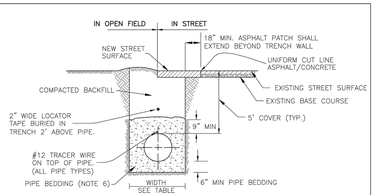
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SHEET NO. 16

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L:\2021\21002209\04 ENGINEERING\04.02 DRAWINGS\04.02.02 PLANSET\21002209-FTG-SANITARY DETAILS.DWG



TYPICAL TRENCH SECTION

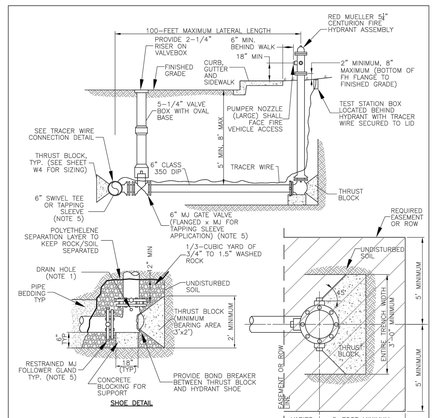
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM. HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

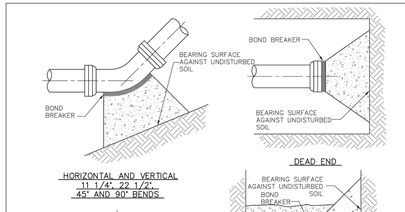
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



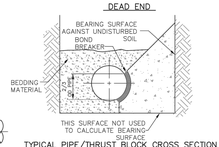
NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

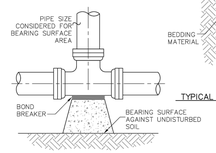
DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



HORIZONTAL AND VERTICAL 11 1/4°, 22 1/2°, 45° AND 90° BENDS



DEAD END



TEE OR TAPPING SLEEVE

TYPICAL PIPE/THRUST BLOCK CROSS SECTION

MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

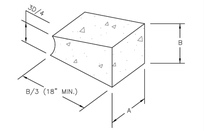
MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-4"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

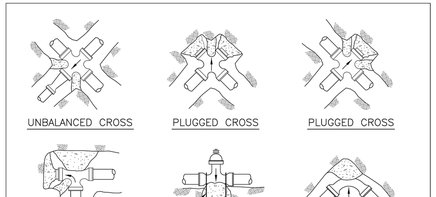
GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).



NOT TO SCALE

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14



NOTES:

1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14

FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP-3 OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF THE PIPE AND TAPED IN PLACE.

NOTE: POLYETHYLENE SHALL BE MINIMUM 8-MIL THICKNESS

DESIGN STANDARDS	STANDARD DRAWING
POLYETHYLENE WRAP	W6
	DATE: 8/15/14

DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14

METER SIZE	A	B	C
3/4"	9"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 8/15/14

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

(PAGE 2 OF 2)

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14

NOTES:

1. FOR ALL 3" AND 4" METER SETTINGS, 4" PVC SERVICE PIPE SHALL BE REQUIRED FROM THE MAIN TO THE VAULT AS SHOWN ON THIS DETAIL. FOR 1" METER SETTINGS, A REDUCER SHALL BE REQUIRED BEFORE THE METER AND ALSO ON THE BYPASS AS SHOWN (SEE NOTE 2 FOR EXCEPTION).
2. UPSIZING OF THE SERVICE PIPE AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPT. FOR A SERVICE PIPE UPSIZED FROM 2" TO 4", A REDUCER SHALL BE INSTALLED AFTER THE METER AS SHOWN (REDUCER IS NOT REQUIRED ON BYPASS IN THIS CASE).
3. IN GENERAL, PVC PIPE SHALL BE USED ON THE SERVICE LINE OUTSIDE THE VAULT, EXCEPT WHERE THE DI PIPE STUBS THROUGH THE VAULT WALL. ALL PIPE AND FITTINGS INSIDE THE VAULT, INCLUDING THE VAULT FITTINGS INSIDE THE VAULT SHALL BE FLANGED, UNLESS OTHERWISE NOTED. FITTING ALLOWED IN VAULT SHALL BE MJ AND DI.
4. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THESE STANDARDS AND SPECIFICATIONS.
5. METER VAULT SHALL BE SURVEYED SO THAT THE COVER CAN BE PROPERLY LOCATED 2" ABOVE FINISHED GRADE PRIOR TO BACKFILLING.
6. A BYPASS IS REQUIRED TO BE INSTALLED ON ALL POTABLE WATER SETTINGS.
7. MANHOLE STEPS SHALL BE PLACED 12" ON CENTER AND 16" MIN. FROM FINISHED GRADE TO THE FIRST STEP.
8. SERVICE PIPES LARGER THAN 4" WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL BY UTILITY OPERATIONS.
9. METER STRAINER SHALL BE INSTALLED ON THE INLET SIDE OF THE METER. ALL METER SETTINGS SHALL HAVE INTERGRAL STRAINERS.
10. STEEL PIPE STANDS SHALL BE REQUIRED: 3 FOR MAIN LINE AND 2 FOR BYPASS LINE (MINIMUM).
11. METER VAULT AND CURB STOP SHALL BE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
12. THIS VAULT IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS OR CONCRETE AREAS.
13. METER VAULT SHALL BE LOCATED PERPENDICULAR TO THE WATER MAIN.
14. NOTE: VAULT ROOFING, WALLS AND FLOOR PLATES MUST BE MANUFACTURED OF STEEL.
15. ALL SERVICE PIPE AND FITTINGS OUTSIDE OF THE VAULT SHALL BE RESTRAINED FOR A MIN. DISTANCE OF 20' UPSTREAM AND DOWNSTREAM OF THE BYPASS TEES.

DESIGN STANDARDS	STANDARD DRAWING
3" AND 4" DOMESTIC METER SETS	W11
	DATE: 8/15/14

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866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 17

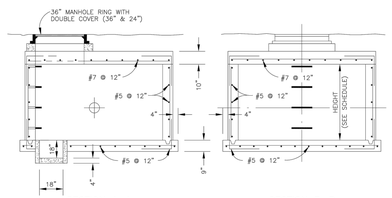
CAD FILE: 21002209-FD-WATER DETAILS.DWG

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

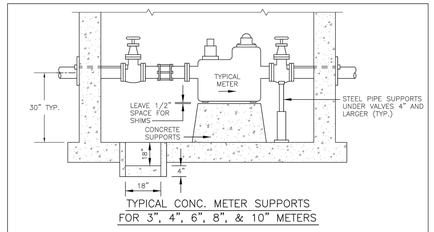
VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)



METER VAULT–INSIDE DIMENSION SCHEDULE

METER SIZE	LENGTH	WIDTH	HEIGHT	WALL THICKNESS
3"	8'–0"	7'–0"	7'–0"	8"
4"	10'–0"	7–0"	7'–0"	8"
6"	12'–0"	9'–0"	7'–0"	8"
8"	12'–0"	9'–0"	7'–0"	8"
12"	12'–0"	10'–0"	8'–0"	8"

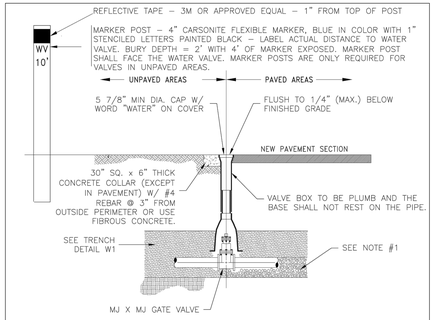
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL METER VAULT	W12
	DATE: 8/15/14



NOTES:
1. SOLID CONCRETE BASE EXTENDS UNDER THE F.M.–C.T. METER BYPASS FOR 6", 8" & 10".
2. SOLID CONCRETE BASE MAY BE PRECAST.

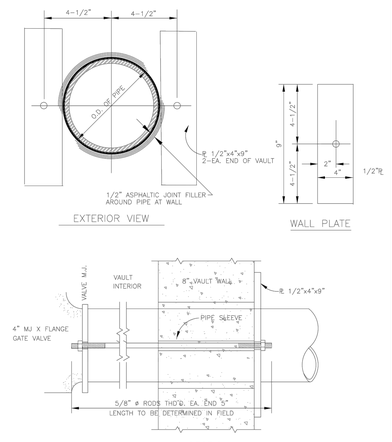
SIZE OF CONCRETE SUPPORT
6" F.M.–C.T. W=3'–9" L=3'–0"
8" F.M.–C.T. W=4'–5" L=3'–8"
10" F.M.–C.T. W=5'–8" L=4'–8"

DESIGN STANDARDS	STANDARD DRAWING
STANDARD CONCRETE METER SUPPORTS	W13
	DATE: 8/15/14

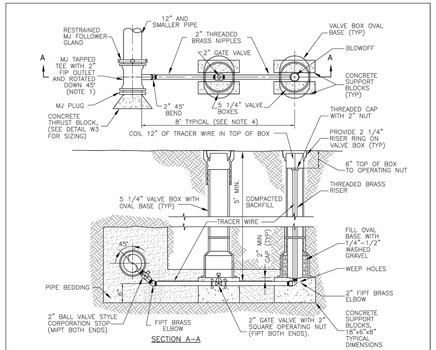


NOTES:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON–RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14

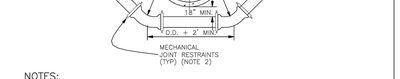


DESIGN STANDARDS	STANDARD DRAWING
WALL CLAMP	W15
	DATE: 8/15/14

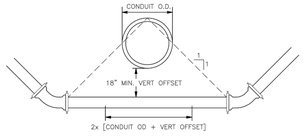


NOTES:
1. MJ TAPPED TEE CAN BE SUBSTITUTED WITH A 2" TAPPING SADDLE, PROVIDE A MINIMUM OF 24" BETWEEN THE TAP LOCATION AND THE HOST PIPE FLANGE. A RESTRAINED MJ PLUG IS REQUIRED ON THE HOST PIPING.
2. ALL 2" FITTINGS AND PIPE SHALL BE BRASS.
3. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING THRUST BLOCKS.

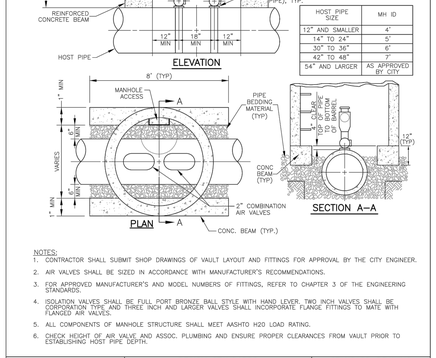
DESIGN STANDARDS	STANDARD DRAWING
STANDARD BLOWOFF ASSEMBLY 12" AND SMALLER WATERLINES	W16
	DATE: 8/15/14



NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.

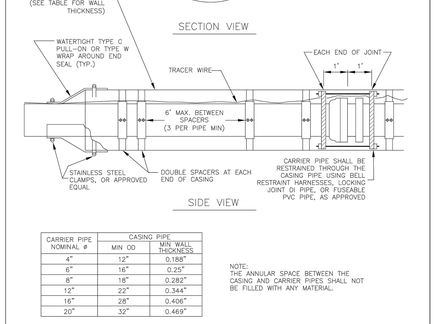


DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14



NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF VAULT LAYOUT AND FITTINGS FOR APPROVAL BY THE CITY ENGINEER.
2. AIR VALVES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. FOR APPROVED MANUFACTURER'S AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE ENGINEERING STANDARDS.
4. ISOLATION VALVES SHALL BE FULL PORT BRONZE BALL STYLE WITH HAND LEVER. TWO INCH VALVES SHALL BE CORPORATION TYPE AND THREE INCH AND LARGER VALVES SHALL INCORPORATE FLANGE FITTINGS TO MATE WITH FLANGED AIR VALVES.
5. ALL COMPONENTS OF MANHOLE STRUCTURE SHALL MEET AASHTO H20 LOAD RATING.
6. CHECK HEIGHT OF AIR VALVE AND ASSOC. PLUMBING AND ENSURE PROPER CLEARANCES FROM VAULT PRIOR TO ESTABLISHING HOST PIPE DEPTH.

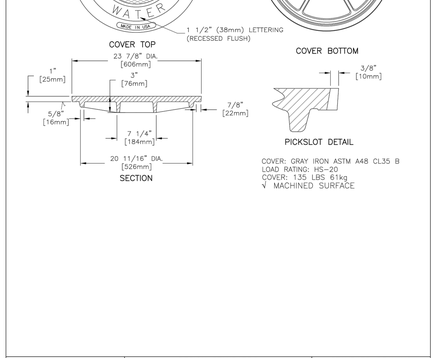
DESIGN STANDARDS	STANDARD DRAWING
COMBINATION AIR VALVE INSTALLATION	W19
	DATE: 8/15/14



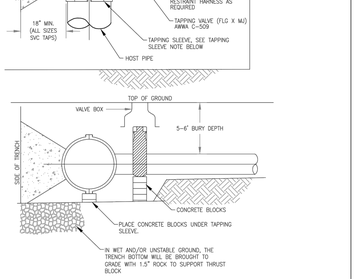
CARRIER PIPE NOMINAL #	CASING PIPE MIN OD	CASING PIPE MIN WALL THICKNESS
4"	12"	0.188"
6"	16"	0.25"
8"	18"	0.282"
12"	22"	0.344"
16"	28"	0.406"
20"	32"	0.469"

NOTE:
THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPES SHALL NOT BE FILLED WITH ANY MATERIAL.

DESIGN STANDARDS	STANDARD DRAWING
BORING DETAIL	W22
	DATE: 8/15/14



DESIGN STANDARDS	STANDARD DRAWING
WATER VAULT LID	W24
	DATE: 8/15/14



NOTES:
1. THE CITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE CITY'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. ALL CAST IRON / DUCTILE IRON FITTINGS TO RECEIVE DOUBLE POLY WRAP PRIOR TO BACKFILL OR POURING OF CONCRETE KICKERs.

DESIGN STANDARDS	STANDARD DRAWING
WET TAP CONNECTION - 4" AND LARGER TAP	W25
	DATE: 8/15/14

PROJECT NO.: LUPXXXX–XXXX &
PLAN NO.: PPLXXXX–XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

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LAKEWOOD, CO 80228
303.462.1100

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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO
CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

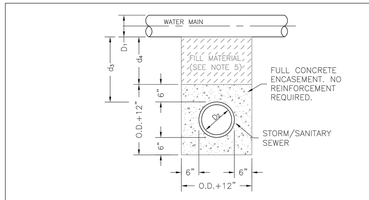
REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 18

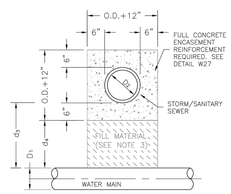
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STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF d_5 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:

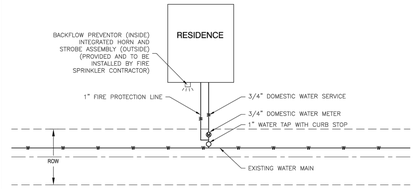
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9-FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d4≤6". COMPACTED BACKFILL, IF d4>6".
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_5

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ENCASEMENT FOR CONDUIT CROSSING	W26
		DATE: 8/15/14

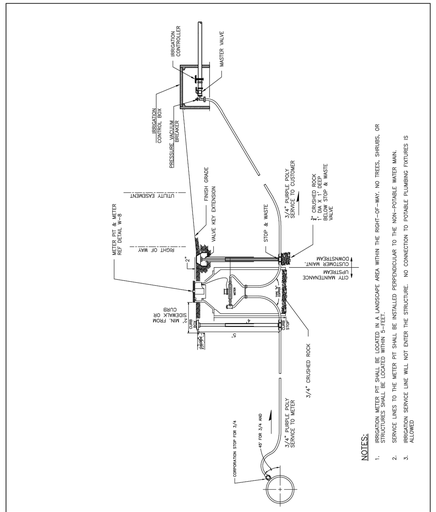
NEW CONSTRUCTION RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM



NOTES:

1. WATER TAP TO BE 1" WITH 1" CURB STOP & BOX
2. TEE OFF 1" PIPE FOR FIRE PROTECTION LINE.
3. REDUCE TO 3/4" LINE WITH 3/4" METER FOR DOMESTIC SERVICE.

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SINGLE WATER TAP FOR FIRE LINE	W29
		DATE: 8/15/14



NOTES:

1. IRRIGATION METER PIT SHALL BE LOCATED IN A LANDSCAPE AREA WITHIN THE RIGHT-OF-WAY, NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED WITHIN 3-FEET.
2. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE NON-ROTABLE METER MAIN.
3. SERVICE LINE SHALL NOT ENTER THE STRUCTURE. NO CONNECTION TO POTABLE PLUMBING FIXTURES IS ALLOWED

CITY OF Fort Lupton EST 1890 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	3/4" & 1" IRRIGATION METER SETS	W30
		DATE: 10/30/20

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
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866.850.4200 www.atwell-group.com
143 UNION BLVD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496
COTTONWOOD DEVELOPMENT PARTNERS, LLC

CLIENT
COTTONWOOD DEVELOPMENT PARTNERS, LLC

COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
DETAILS
WATER DETAILS

DATE 2/8/2022

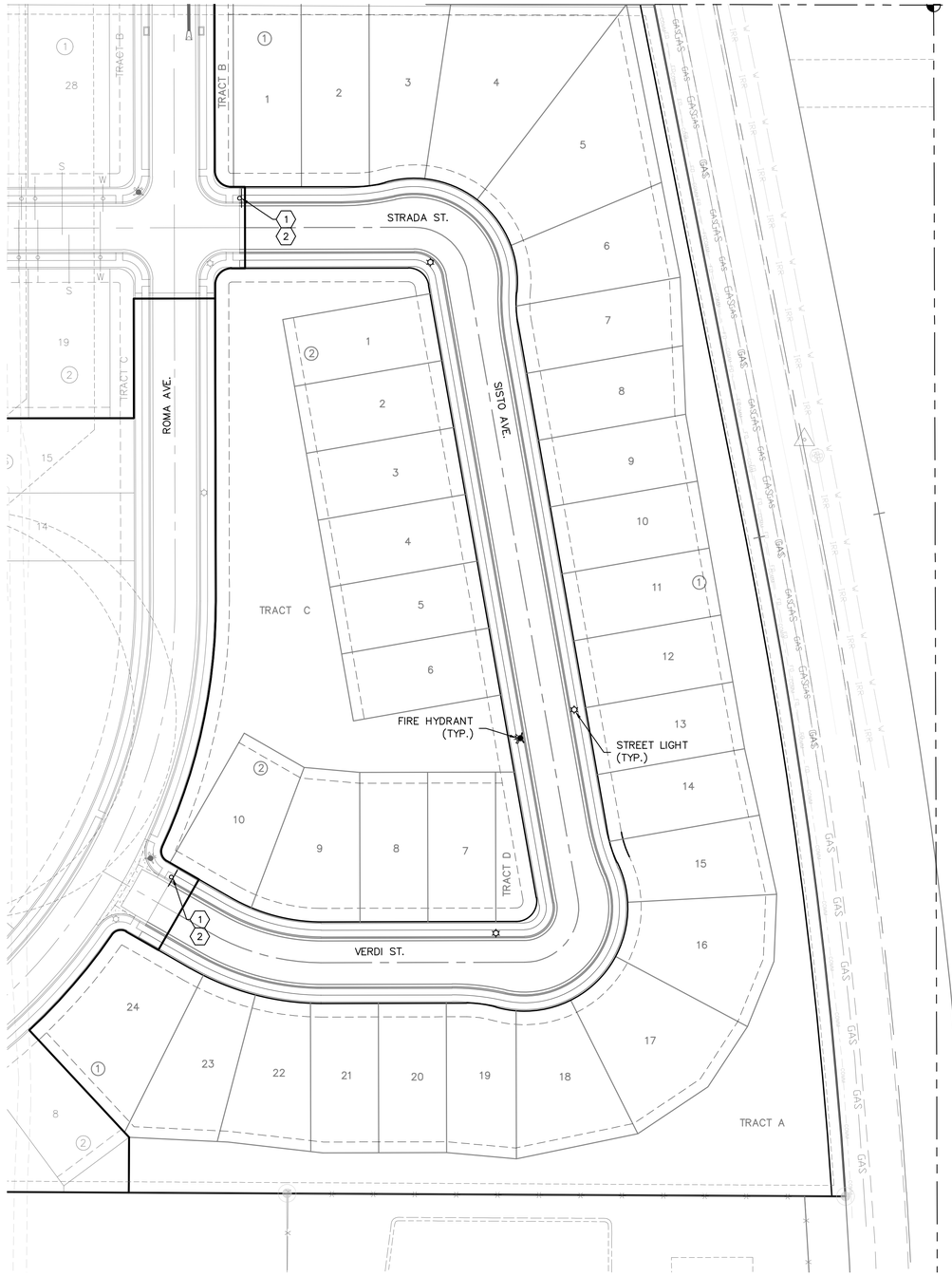
REVISIONS

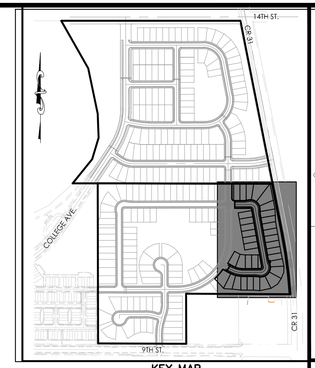
PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 19

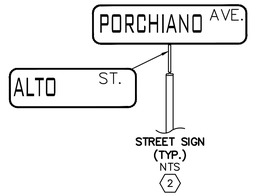
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KEY MAP
N.T.S.



STREET SIGN (TYP.)
NTS
2



R1-1
30"x30"
NTS
1



D3
VARIABLE SIZE
NTS

CONTRACTOR TO USE FORT LUPTON STREET SIGN AT ALL LOCATIONS

NOTES:

1. THE INSTALLATION OF ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE COLORADO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

2. TRAFFIC CONTROL DEVICES ON PUBLIC PROPERTY ALL PERMANENTLY FIXED TRAFFIC SIGNALS WILL GENERALLY BE INSTALLED BY THE CITY AT THE DEVELOPER'S EXPENSE. HOWEVER, IF THE DEVELOPER SUBMITS A SIGNAGE PLAN WHICH IS SUBSEQUENTLY APPROVED BY THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER, THE DEVELOPER MAY INSTALL THESE TRAFFIC SIGNS. TRAFFIC SIGNS SHALL BE PLACED TO CONFORM TO THE DRAWING DETAILS.

3. TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY
(A) RESPONSIBILITY: ALL TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY; I.E., PAVEMENT MARKINGS, REGULATORY SIGNS, FIRE LANE SIGNS, AND HANDICAPPED PARKING SIGNS SHALL BE INSTALLED AND MAINTAINED BY THE PROPERTY OWNER.
(B) PLACEMENT: A SIGNAGE AND STRIPING PLAN SPECIFYING THE VARIOUS TYPES AND COMBINATIONS OF TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL.

4. ALL PAVEMENT MARKINGS REQUIRED TO BE INSTALLED AS A RESULT OF NEW CONSTRUCTION OR DEVELOPMENT SHALL BE THERMOPLASTIC AS PER CDOT SPECIFICATION 627. TEMPORARY PAVEMENT MARKINGS NECESSARY TO FACILITATE CONSTRUCTION (I.E. DETOURS) MAY BE INSTALLED USING PAINT.

5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR ALL PAVEMENT MARKINGS TO THE PUBLIC WORKS DIRECTOR/CITY TRANSPORTATION ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK. THE PAVEMENT MARKING PLAN SHALL MEET THE REQUIREMENTS FOR SUCH WORK AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL PAVEMENT MARKING MATERIALS MUST BE APPROVED BY THE CITY TRANSPORTATION ENGINEER. MATERIAL SPECIFICATIONS.





(IN FEET)
1 inch = 50 ft.

PROJECT NO.: LUPXXXX-XXXX &
PLAN NO.: PPLXXXX-XXXX

BENCHMARK:

HORIZONTAL DATUM: LOCAL COORDINATE SYSTEM BASED ON NGS "N 260 REST" (500000, 900000). KNOW INTERNALLY AS "BRIGHTON LOCAL". LINEAL MEASURE IS BASED ON THE U.S. SURVEY FOOT.

VERTICAL DATUM: NAVD88 USING GEOID MODEL "GEOID12A"
NGS "U 260" (NAVD88 EL=4894.42)
NGS "4907" (NAVD88 EL=4908.22)

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL
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143 UNION BLVD, SUITE 700
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COTTONWOOD GREENS FILING NO. 10
FORT LUPTON, COLORADO

CONSTRUCTION PLANS
SIGNAGE & STRIPING

DATE 2/8/2022

REVISIONS

PLANS UNDER REVIEW NOT FOR CONSTRUCTION

DR. EAP | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 4

CAD FILE: 21002209-FTO-SIGNAGE & STRIPING.DWG

Phase III Drainage Report

Cottonwood Greens Filing No. 5-10

A part of the Cottonwood Greens Subdivision

Tracts of land in the South Half of Section 33, Township 2 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado

Owner/Developer
Cottonwood Development Partners, LLC
4040 MacArthur Drive, Suite 250
Newport Beach, California 92660
Contact: Mr. Jim Righeimer

Engineer
143 Union Boulevard
Suite 700
Lakewood, CO 80228
Tel: 303.462.1100
Contact: Daniel Rodriguez, PE

Atwell Project Number
21002209

City of Fort Lupton Project Number
LUP2021-xxxx
PPL2021-xxxx

Submittal Date
February 2022

Signature Page

Engineer's Statement:

"I hereby affirm that this report and plan for the Phase III drainage design of the development, Cottonwood Greens Filing No. 5-10, was prepared by me (or under my direct supervision) in accordance with the provisions of the City of Fort Lupton Storm Drainage Design and Technical Criteria for the owners thereof. I understand that the City of Fort Lupton does not and will not assume liability for facilities designed by others. I am also aware of the provisions of the City CODE as it pertains to the City's review."

SEAL & SIGNATURE: _____

Daniel Rodriguez, PE Date

Registered Professional Engineer State of Colorado No. 48683

Developer's Statement:

"Cottonwood Development Partners, LLC hereby affirms that the drainage facilities for the development, Cottonwood Greens Filing No. 5-10, shall be constructed according to the design presented in this report. I understand that the City of Fort Lupton does not and will not assume liability for drainage facilities designed and/or certified by my engineer. I understand that the City of Fort Lupton reviews drainage plans but cannot, on behalf of Cottonwood Development Partners, LLC and/or their successors and/or assigns assume future liability for improper design. I am also aware of the provisions of the City CODE as it pertains to the City's review."

_____

Authorized Signature Date

_____

Printed Name

_____

Title

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APPENDIX A – Existing Conditions
APPENDIX B – Proposed Drainage Plans
APPENDIX C – Rational Method Calculations
APPENDIX D – Inlet and Street Capacity Calculations
APPENDIX G – Referenced Material

General Location and Description

Location

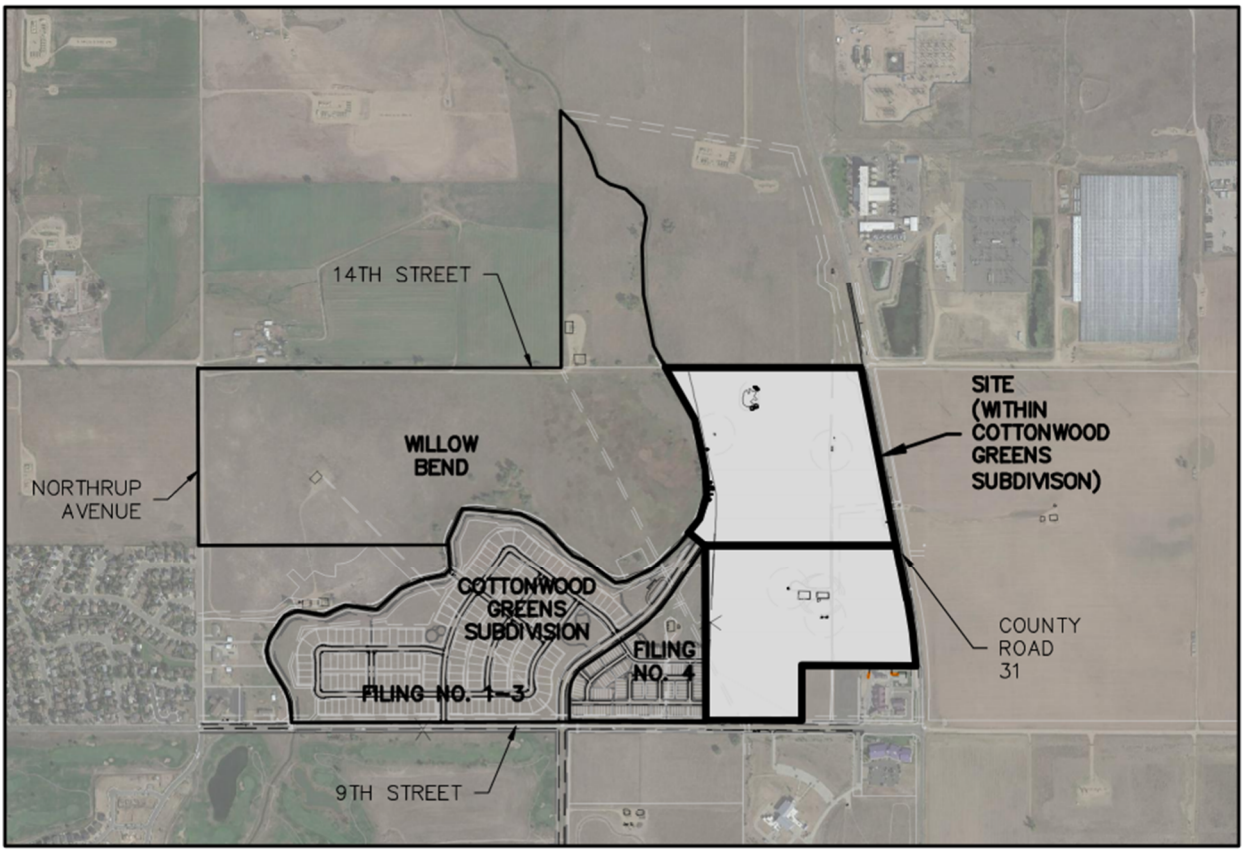


Figure 1 – Project Location

The Cottonwood Greens Filing No. 5-10 project site is two tracts of land within the Cottonwood Greens Subdivision and is situated in the south half of Section 33, Township 2 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado. The site is bounded by Cottonwood Greens Filing No. 1-3 to the Southwest, Cottonwood Greens Filing No. 4 to the West, Fulton Ditch to the West, Weld County Road 31 to the East, 14th Street to the North, and 9th Street to the South. 9th Street is being improved with the College Ave/9th St Reconstruction Project by Wohnrade Civil Engineers for the City of Fort Lupton.

To the West, across the Fulton Ditch is the rest of the Cottonwood Greens P.U.D., soon to be developed as Willow Bend. To the South, across 9th Street, is Coyote Creek Golf Course, a Colorado Army National Guard Station, and a Weld County Facility. The Fort Lupton Fire Department is located at the Northwest corner of 9th Street and County Road 31. Further to the East, across County Road 31, is undeveloped land zoned R-1.

Description of Property

The proposed 75.81-acre Filing No. 5-10 development consists of 231 single-family lots with on-site open spaces and detention. The site is part of the Cottonwood Greens PUD, recorded April 13th, 2006, and is currently undeveloped land used for farming, and houses gas facilities. Two earlier Filings exist for the site. Filing No. 1-3 of Cottonwood Greens proposed 291 single-family lots on 120 acres. Filing No. 4 proposed 137 townhouse residential units in 27 buildings on 16.2 acres. The Filing No. 4 Cottonwood Greens Drainage Report assumed information for this area of the site within their report. This Filing No. 5-10 Drainage Report will re-analyze this earlier Report with updated information and confirm assumptions made.

The site's topography generally slopes from the southeast to northwest with the slopes ranging between 1 percent and 9 percent. An onsite soil report for the site is illustrated in the Web Soil Survey from the National Resource Conservation Service (NRCS) website. The soil report indicates that 95% of the site is Valent Sand with the remainder being loamy sands and clay loam. The site consists of mainly Hydrologic Soil Group A soils. A soil report has been included in Appendix A.

Existing condition plans show all easements within and surrounding the subject property and can be found in the construction drawings.

Historic Drainage Basin

The existing topography shows sheet flow from southeast to northwest with flows entering Detention Pond 3. Detention Pond 3, proposed with Cottonwood Greens Subdivision Filing No. 1-3 Construction Plans and expanded with Filing No. 4, will be the outfall point for the Filing No. 5-10 site. See the earlier Filings and the College Avenue/9th Street Reconstruction for more information about existing drainage to Detention Pond 3.

The downstream outfall for Detention Pond 3 is to the Willow Bend site and ultimately to the existing Golden Pond, located at the southeast corner of Pacific Court and 14th Street. The ultimate outfall for Golden Pond is the South Platte River. For more information on the Golden Pond and Cottonwood Greens Subdivision Detention Pond 3, please see the Drainage Report for the Cottonwood Greens Subdivision Filing No. 1-3.

The project area is not within a FEMA regulated floodplain as shown on FEMA Map No. 08123C2110E in Appendix C. As illustrated, the project site lies within Zone X - determined to be outside of the FEMA 100 and 500-year floodplains.

Proposed Drainage Basins

Drainage Basins

The Filing No. 5-10 site contains 40 onsite drainage basins. 38 basins drain to Detention Pond 3 that was constructed as part of Cottonwood Greens Subdivision Filing No. 1-3 and expanded by Filing No. 4. See

the Filing No. 4 Construction Plans for more information on this pond design. Two basins sheet flow offsite following existing grades and existing drainage patterns.

A Drainage Basin Map has been included in Appendix B of this Report to graphically depict the drainage basins for this Site.

Sub-basin A1 is 3.60 acres comprised of the northern portion of the existing Pond 3 from Filing No. 4, west of College Avenue. Runoff is captured in the pond and drains to the trickle channels which flow to Design Point 1, the existing pond outlet structure. See the Filing No. 4 Construction Plans for more information on this pond design.

Sub-basin A2 is 0.30 acres comprised of the west side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 2.

Sub-basin A3 is 0.41 acres comprised of the east side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 3.

Sub-basin A4 is 4.35 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 4 and is collected in a sump inlet.

Sub-basin A5 is 2.93 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 4 and is collected in a sump inlet.

Sub-basin A6 is 1.20 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 6 and is collected in a sump inlet.

Sub-basin A7 is 0.99 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 6 and is collected in a sump inlet.

Sub-basin A8 is 2.14 acres comprised of open space lawn area. This includes a portion of an existing gas well facility that is to remain onsite. Runoff sheet flows to Design Point 8 and is collected in a Type-D inlet.

Sub-basin A9 is 0.48 acres comprised of the west side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 9.

Sub-basin A10 is 0.40 acres comprised of the east side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 10.

Sub-basin A11 is 1.30 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 11 and is collected in a sump inlet.

Sub-basin A12 is 2.03 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 12 and is collected in a sump inlet.

Sub-basin A13 is 5.95 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 13 and is collected in a sump inlet.

Sub-basin A14 is 0.70 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 14 and is collected in a sump inlet.

Sub-basin A15 is 2.31 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 15 and is collected in a sump inlet.

Sub-basin A16 is 1.79 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 16 and is collected in a sump inlet.

Sub-basin A17 is 0.38 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 17 and is collected in a sump inlet.

Sub-basin A18 is 1.38 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 18 and is collected in a sump inlet.

Sub-basin A19 is 4.00 acres comprised of the southern portion of the existing Pond 3 from Filing No. 4, east of College Avenue. Runoff is captured in the pond and drains to the trickle channels which flow to Design Point 19, an FES that connects it to the northern portion of the pond. See the Filing No. 4 Construction Plans for more information on this pond design.

Sub-basin A20 is 2.05 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 20 and is collected in a sump inlet.

Sub-basin A21 is 0.87 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 21 and is collected in a sump inlet.

Sub-basin A22 is 1.42 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 22 and is collected in a sump inlet.

Sub-basin A23 is 2.32 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 23 and is collected in a sump inlet.

Sub-basin A24 is 0.46 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 24 and is collected in a sump inlet.

Sub-basin A25 is 4.42 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 25 and is collected in a sump inlet.

Sub-basin A26 is 6.64 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 26 and is collected in a sump inlet.

Sub-basin A27 is 1.32 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 27 and is collected in a sump inlet.

Sub-basin A28 is 0.73 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 28 and is collected in a sump inlet.

Sub-basin A29 is 0.97 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 29 and is collected in a sump inlet.

Sub-basin A30 is 0.87 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 30 and is collected in a sump inlet.

Sub-basin A31 is 1.57 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 31 and is collected in a sump inlet.

Sub-basin A32 is 2.24 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 32 and is collected in two Type-D inlets.

Sub-basin A33 is 1.56 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 33 and is collected in a sump inlet.

Sub-basin A34 is 2.66 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 34 and is collected in four area inlets.

Sub-basin A35 is 0.86 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 35 and is collected in three area inlets.

Sub-basin A36 is 0.67 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 36 and is collected in a Type-D inlet.

Sub-basin A37 is 2.44 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 37 and is collected in a sump inlet.

Sub-basin A38 is 3.18 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 38 and is collected in a sump inlet.

Sub-basin B1 is 1.93 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows overland offsite.

Sub-basin B2 is 2.39 acres comprised of lawn area between Pond 3 and the existing Fulton Ditch. Runoff sheet flows overland offsite.

Drainage Design Criteria

The site drainage system has been designed per the City of Fort Lupton's criteria and discussions with the City of Fort Lupton. The storm system for this site has been designed to convey the 100-year event. The ponding area expansion of Detention Pond 3 proposed with Filing No. 4 provided additional capacity to account for the ultimate build out of Filing No. 5-10. Please refer to the Cottonwood Greens Subdivision Filing No. 4 Construction Plans and Drainage Report for information pertaining to the

Detention Pond 3 design. Filing No. 1-3 Drainage Report also provides more information that the ponds had been sized to over-detain, beyond the 100-year event, and release at less than the historic rate. The system had been intended to pass the historic flow through from off-site basins. Once these upstream basins are developed, on-site detention (likely over-detention) will be required of them as well.

Hydrological Criteria

Rational Method calculations were run using spreadsheets provided by the Mile High Flood Control District and can be found in Appendix C.

Hydraulic Criteria

In order to prevent flooding downstream, outlet structures will need to release detained storm water based on the agreed upon release rate. This was determined by Filing No. 1-3 and included within their Report. The Filing No. 1-3 Report also includes information on Ponds 1 and 2 that are offsite from Filing No. 5-10 but must be considered in relation to the release rates of Pond 3. Per this agreement, the entire Cottonwood Greens property cannot release more than 1 cfs in the Minor (5-year) Storm and 47.5 cfs in the Major (100-year) Storm. Using these release rates, downstream drainage facilities will not be impacted for storms up to and including the 100-year storm.

Filing No. 5-10 project does not propose additional stormwater runoff beyond what was anticipated with Filing No. 4. See Table 1 for comparison of Filing No. 4 flows and Filing No. 5-10 flows. As such, the pond designed with Filing No. 4 is still valid and no modifications are required. See Filing No. 4 Drainage Report for more information about the sizing of Detention Pond 3. See Filing No. 4 for all pond calculations, including outlet structure calculations. See Filing No. 1-3 for additional details on the outfall for Pond 3 that combines the flows from Pond 1 and 2 outlets and take them under Fulton Ditch, through an easement on the adjacent property (Willow Bend Development) to the Northwest.

Basin	Stormwater Runoff
	100-year (cfs)
OS2 + OS3 (Filing No. 4)	176.2
Basin A (Filing No. 5-10)	166.8

Table 1 – Filing No. 4 Runoff and Filing No. 5-10 Runoff

The natural drainage path for the site leads to an irrigation ditch that cannot accept any additional runoff to prevent flooding of land downstream, so all pipes and inlets have been sized for the 100-Year Major Storm. This development will not increase runoff to the Fulton Ditch. Inlet and Street Capacity calculations can be found in Appendix D. Street Capacity is confirmed throughout the Site. All pipes are sized appropriately with no adverse impacts to surrounding lots.

Summary

As shown in this report, this project proposes less stormwater runoff to Detention Pond 3 then was assumed by Filing No. 4. Therefore, the design from Filing No. 4 is correct and no additional calculations are required. Adequate detention has been provided, and the combined release rate for rainfall events up to and including the 100-Year storm will be released below the historic release rates for the Site per Filing No. 1-3. The outfall shown with Filing No. 1-3 will convey drainage through Willow Bend and eventually to Golden's Pond. Additional flow from potential upstream development, not mentioned as part of this analysis, may trigger regional upgrades.

References

1) Storm Drainage Utility Plan, City of Fort Lupton; Adopted March 2015.
2) City of Fort Lupton Storm Drainage Design and Technical Criteria Manual; City of Fort Lupton
3) Drainage Criteria Manual, Volumes 1, 2, &3, Mile High Flood Control District; Latest Editions.
4) Construction Plans for Cottonwood Greens Development Filing No. 1-3, Atwell, LLC.
5) Phase III Drainage Report for Cottonwood Greens Development Filing No. 1-3, Atwell, LLC.
6) Construction Plans for Cottonwood Greens Development Filing No. 4, Atwell, LLC.
7) Phase III Drainage Report for Cottonwood Greens Development Filing No. 4, Atwell, LLC.
8) Cottonwood Greens Filing No. 5-10 Construction Plans, Atwell, LLC.
9) College Ave/9th St Reconstruction Project, Wohnrade Civil Engineers.
10) Flood Insurance Rate Map of Weld County Colorado: Map No. 08123C2110E, Federal Emergency Management Agency; September 30, 2019.
11) USDA – NRCS – Web Soil Survey

APPENDIX A – Existing Conditions

GOLDEN POND

Willow Bend

Filing No. 5-10 Site

POND 3

Cottonwood Greens Filing No. 1-3 and Filing No. 4

9th Street and College Avenue Improvements (By WCE)

Pond 3 Design Basin (dashed red boundary)

Major Basin - 14th Street Basin

14TH STREET

WELD COUNTY RD 14 1/2

9TH STREET

COUNTY RD 29 1/2

1ST STREET

COLORADO STATE HIGHWAY 52

US HIGHWAY No. 85

UNION PACIFIC RAILROAD

SHORTLINE DITCH

CEMETERY ROAD

WELD COUNTY RD 12

MATCHLINE SHEET 2

LEGEND
- STORM SEWER LINE
- STORM MANHOLE
- STORM INLET
- CITY LIMITS
- RAILROAD – UNION PACIFIC
- DRAINAGE BASIN

400 200 0 400 800 1200
SCALE IN FEET

J&T Consulting, Inc.
305 Denver Avenue • Suite D
Fort Lupton, CO 80621
Ph: 303.857.8704 • Fax: 303.857.0244
www.JConsulting.com

South Utility Extensions

Storm Sewer System Map

City of Ft. Lupton

No	Description	Date	By	Chk
	REVISIONS			

Job #	10108
Date	6/14/10
Drawn By	TPY/WSS
Designed By	TPY
Checked By	JCY
File	JT-storm
Scale	1" = 400'
Sheet:	Of:

APPENDIX B – Proposed Drainage Plans



BASIN	PEAK FLOW, Q (CFS)	
	5-YR	100-YR
A1	0.34	3.71
A2	0.42	1.19
A3	0.53	1.51
A4	3.03	9.20
A5	2.48	7.03
A6	1.21	3.41
A7	1.02	2.87
A8	0.17	1.79
A9	0.69	1.94
A10	0.55	1.56
A11	1.37	3.87
A12	2.12	5.98
A13	3.67	11.23
A14	1.05	2.96
A15	1.95	5.51
A16	1.52	4.30
A17	0.46	1.31
A18	0.62	2.29
A19	1.27	5.63
A20	1.99	5.62
A21	0.91	2.57
A22	0.94	3.14
A23	2.10	5.94
A24	0.57	1.60
A25	3.73	10.95
A26	4.05	13.09
A27	0.96	3.20
A28	0.81	2.28
A29	0.99	2.79
A30	0.98	2.77
A31	1.60	4.53
A32	0.36	2.23
A33	1.66	4.70
A34	0.73	3.82
A35	0.65	2.13
A36	1.00	2.84
A37	2.63	7.45
A38	2.48	7.89
TOTAL TO POND 3	53.6	166.8
B1	1.58	5.83
B2	0.27	2.88
TOTAL OFF-SITE	1.9	8.7

(IN FEET)
1 inch = 80 ft.

A = BASIN DESIGNATION
B = AREA IN ACRES
C = 5 YR RUNOFF COEFFICIENT
D = 100 YR RUNOFF COEFFICIENT

DESIGN POINT

MAJOR DRAINAGE BASIN BOUNDARY (FROM FILING NO. 4)

MINOR DRAINAGE BASIN BOUNDARY

DRAINAGE FLOW ARROW

EMERGENCY OVERFLOW

Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
ARBOR CAPITAL PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

ARBOR CAPITAL PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 5 – 10
FORT LUPTON, COLORADO
PROPOSED DRAINAGE BASIN MAPS
DRAINAGE MAP NORTH

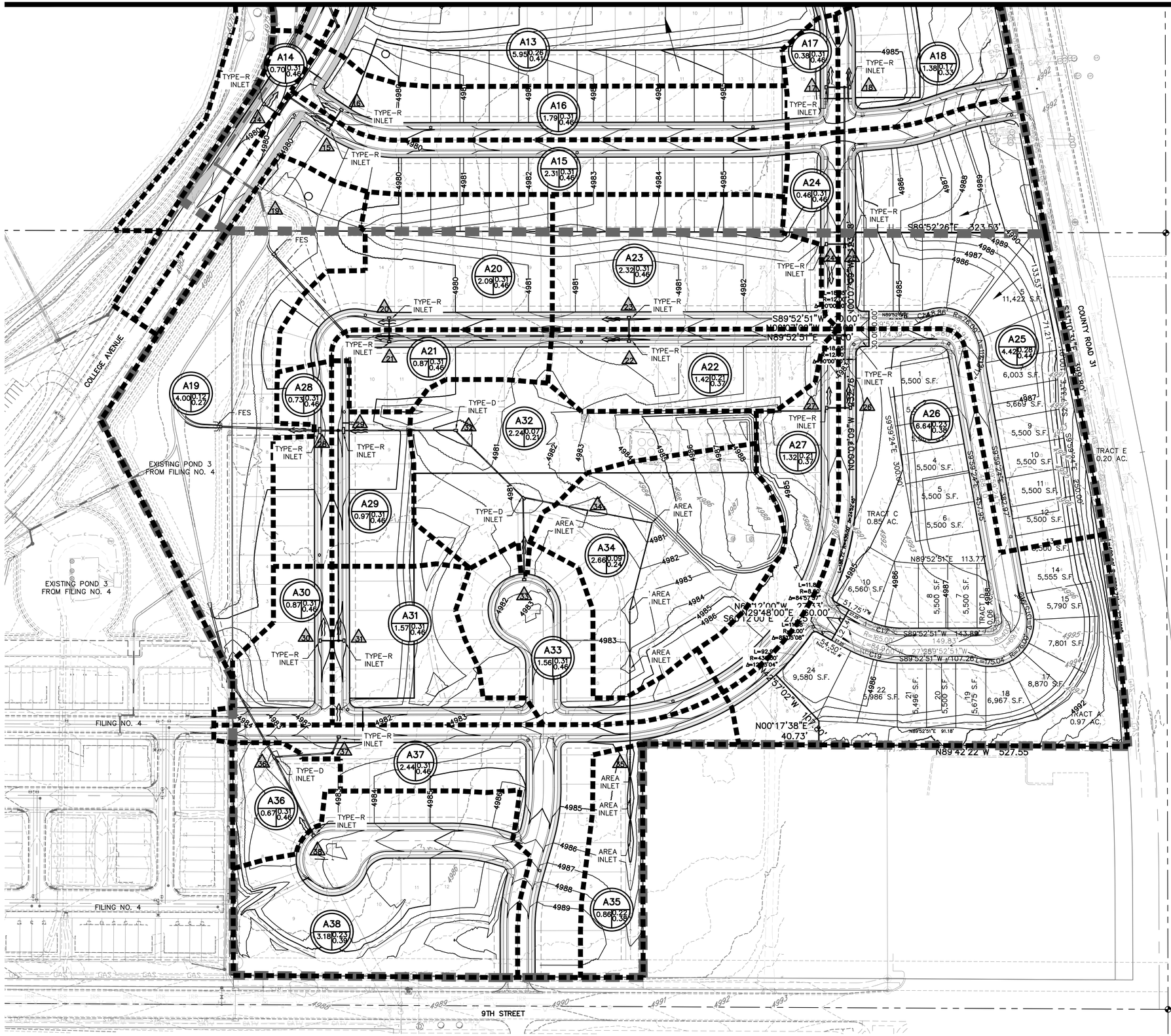
DATE 2/9/2022

REVISIONS

DR. AMC | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1 OF 2

CAD FILE: 21002209-DRAINAGE MAPS-DEVELOPED CONDITIONS.DWG

SEE SHEET 2


A13 5.95 0.26 0.41
A14 0.70 0.31 0.46
A15 2.31 0.31 0.46
A16 1.79 0.31 0.46
A17 0.38 0.31 0.46
A18 1.38 0.17 0.33
A19 4.00 0.12 0.25
A20 2.09 0.31 0.46
A21 0.87 0.31 0.46
A22 1.42 0.21 0.37
A23 2.32 0.31 0.46
A24 0.46 0.31 0.46
A25 4.42 0.28 0.44
A26 6.64 0.23 0.38
A27 1.32 0.21 0.37
A28 0.73 0.31 0.46
A29 0.97 0.31 0.46
A30 0.87 0.31 0.46
A31 1.57 0.31 0.46
A32 2.24 0.07 0.21
A33 1.56 0.31 0.46
A34 2.66 0.09 0.24
A35 0.86 0.22 0.38
A36 0.67 0.31 0.46
A37 2.44 0.31 0.46
A38 3.18 0.23 0.39
TYPE-R INLET
TYPE-D INLET
AREA INLET
FES
COLLEGE AVENUE
EXISTING POND 3 FROM FILING NO. 4
FILING NO. 4
TRACT C 0.85 AC.
TRACT A 0.97 AC.
TRACT E 0.20 AC.
COUNTY ROAD 31
9TH STREET
S89°52'26"E 323.53'
S89°52'51"W 50.00'
N00°07'09"W 30.00'
N89°52'51"E 124.39'
N89°52'51"E 113.77'
S89°52'51"W 143.89'
S89°52'51"W 107.26'
N89°52'51"E 91.18'
N00°17'38"E 40.73'
N89°42'22"W 527.55'
S34°10'15"E 388.90'
S55°49'45"W 300.00'
N34°10'15"W 388.90'
N55°49'45"E 300.00'
N00°29'48"E 50.00'
S00°12'00"E 27.00'
N00°12'00"W 27.00'
N34°57'02"W 102.00'
S34°57'02"E 102.00'
L=11.88' R=8.00' Δ=84°57'57"
L=11.88' R=8.00' Δ=85°15'08"
L=92.68' R=440.00' Δ=12°03'04"
L=84.91' R=165.00' Δ=29°29'52"
L=175.04' R=765.00' Δ=13°06'39"
L=124.50' R=765.00' Δ=9°19'39"
L=133.52' R=765.00' Δ=10°00'00"
L=124.39' R=765.00' Δ=9°18'58"
L=124.39' R=765.00' Δ=9°18'58"
L=124.39' R=765.00' Δ=9°18'58

APPENDIX C – Rational Method Calculations

PERCENT IMPERVIOUS CALCULATION

PROJECT MANE: Cottonwood Greens Filing No. 5 - 10
PROJECT NO: 21002209
LOCATION: Fort Lupton, Colorado

*Calculations on this sheet come from Figure 603: Fort Lupton Drainage Manual

NRCS Hydrologic Soil Group: A

Single Family	45% Impervious
Multi-Unit (attached)	70% Impervious
Parks, cemeteries	7% Impervious
Paved	100% Impervious
Drive and walks	96% Impervious
Lawns, clayey soil	7% Impervious
Historic flow analysis	2% Impervious

PROPOSED DRAINAGE AREA

BASIN ID	Notes	A_{total} (ft²)	Single Family (ft²)	Multi-Unit (attached) (ft²)	Parks, cemeteries (ft²)	Paved (ft²)	Drive and walks (ft²)	Lawns, clayey soil (ft²)	Historic flow analysis (ft²)	A_{total} (Ac)	Percent Impervious
A1		156816	0	0	0	0	0	156816	0	3.60	7.0%
A2		13043	13043	0	0	0	0	0	0	0.30	45.0%
A3		17860	17860	0	0	0	0	0	0	0.41	45.0%
A4		189486	160631	0	0	0	0	28855	0	4.35	39.2%
A5		127631	127631	0	0	0	0	0	0	2.93	45.0%
A6		52272	52272	0	0	0	0	0	0	1.20	45.0%
A7		43124	43124	0	0	0	0	0	0	0.99	45.0%
A8		93218	0	0	0	0	0	93218	0	2.14	7.0%
A9		20909	20909	0	0	0	0	0	0	0.48	45.0%
A10		17424	17424	0	0	0	0	0	0	0.40	45.0%
A11		56628	56628	0	0	0	0	0	0	1.30	45.0%
A12		88427	88427	0	0	0	0	0	0	2.03	45.0%
A13		259182	216442	0	0	0	0	42740	0	5.95	38.7%
A14		30492	30492	0	0	0	0	0	0	0.70	45.0%
A15		100624	100624	0	0	0	0	0	0	2.31	45.0%
A16		77972	77972	0	0	0	0	0	0	1.79	45.0%
A17		16553	16553	0	0	0	0	0	0	0.38	45.0%
A18		60113	28553	0	0	0	0	31560	0	1.38	25.0%
A19		174341	64811	0	0	0	0	109530	0	4.00	21.1%
A20		89298	89298	0	0	0	0	0	0	2.05	45.0%
A21		37897	37897	0	0	0	0	0	0	0.87	45.0%
A22		61855	42624	0	0	0	0	19231	0	1.42	33.2%
A23		101059	101059	0	0	0	0	0	0	2.32	45.0%
A24		20038	20038	0	0	0	0	0	0	0.46	45.0%
A25		192535	177274	0	0	0	0	15261	0	4.42	42.0%
A26		289238	213963	0	0	0	0	75275	0	6.64	35.1%
A27		57499	40134	0	0	0	0	17365	0	1.32	33.5%
A28		31799	31799	0	0	0	0	0	0	0.73	45.0%
A29		42253	42253	0	0	0	0	0	0	0.97	45.0%
A30		37897	37897	0	0	0	0	0	0	0.87	45.0%
A31		68389	68389	0	0	0	0	0	0	1.57	45.0%
A32		97574	16240	0	0	0	0	81334	0	2.24	13.3%
A33		67954	67954	0	0	0	0	0	0	1.56	45.0%
A34		115870	29480	0	0	0	0	86390	0	2.66	16.7%
A35		37462	26937	0	0	0	0	10525	0	0.86	34.3%
A36		29185	29185	0	0	0	0	0	0	0.67	45.0%
A37		106286	106286	0	0	0	0	0	0	2.44	45.0%
A38		138521	106044	0	0	0	0	32477	0	3.18	36.1%
B1		84071	46661	0	0	0	0	37410	0	1.93	28.1%
B2		104108	0	0	0	0	0	104108	0	2.39	7.0%
Subtotals:		3,406,904	2,464,808	0	0	0	0	942,096	0		34.5%

Drainage Area= 78.21

Calculation of Peak Runoff using Rational Method

Designer:
Company: Atwell, LLC
Date: 1/27/2022
Project: Cottonwood Greens Filing No. 5 - 10
Location: Fort Lupton, Colorado

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_i^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{minimum}$ = 5 (urban)
$t_{minimum}$ = 10 (non-urban)

Selected $t_c = \max\{t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c)\}$

Select UDFCD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
1-hour rainfall depth, P1 (in) =	1.00	1.42	1.68		2.35	2.71	

Rainfall Intensity Equation Coefficients =	a	b	c
	28.50	10.00	0.786

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$$Q(cfs) = CIA$$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time					Channelized (Travel) Flow Time							Time of Concentration			Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)	Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
A1	3.60	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	102.00			0.070	10.28	356.00			0.005	20	1.41	4.20	14.47	33.22	14.47	2.31	3.28	3.88		5.43	6.26		0.22	0.34	0.46		1.66	3.71	
A2	0.30	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	20.00			0.020	5.07	140.00			0.010	20	2.00	1.17	6.24	19.88	6.24	3.19	4.53	5.35		7.49	8.64		0.28	0.42	0.52		0.92	1.19	
A3	0.41	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	25.00			0.010	7.12	90.00			0.010	20	2.00	0.75	7.87	19.33	7.87	2.96	4.20	4.96		6.94	8.01		0.36	0.53	0.66		1.17	1.51	
A4	4.35	A	39.2	0.25	0.26	0.28	0.31	0.36	0.42	0.51	172.00			0.030	13.83	955.00			0.010	20	2.00	7.96	21.79	30.32	21.79	1.88	2.67	3.16		4.42	5.09		2.03	3.03	3.78		6.91	9.20	
A5	2.93	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	185.00			0.020	15.42	660.00			0.010	20	2.00	5.50	20.92	25.54	20.92	1.92	2.73	3.23		4.51	5.21		1.67	2.48	3.09		5.41	7.03	
A6	1.20	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	130.00			0.020	12.92	240.00			0.010	20	2.00	2.00	14.92	20.96	14.92	2.28	3.23	3.82		5.35	6.17		0.81	1.21	1.50		2.63	3.41	
A7	0.99	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	140.00			0.020	13.41	100.00			0.010	20	2.00	0.83	14.25	19.44	14.25	2.33	3.30	3.91		5.47	6.30		0.68	1.02	1.26		2.21	2.87	
A8	2.14	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	200.00			0.020	21.76	10.00			0.020	15	2.12	0.08	21.84	24.93	21.84	1.88	2.67	3.15		4.41	5.09		0.11	0.17	0.22		0.80	1.79	
A9	0.48	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	275.00			0.010	20	2.00	2.29	5.88	21.35	5.88	3.24	4.61	5.45		7.62	8.79		0.46	0.69	0.85		1.50	1.94	
A10	0.40	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	25.00			0.020	5.67	110.00			0.010	20	2.00	0.92	6.58	19.55	6.58	3.13	4.45	5.27		7.37	8.49		0.37	0.55	0.69		1.21	1.56	
A11	1.30	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.030	11.94	184.00			0.010	20	2.00	1.53	13.47	20.35	13.47	2.39	3.39	4.01		5.61	6.46		0.92	1.37	1.70		2.98	3.87	
A12	2.03	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.030	11.94	220.00			0.010	20	2.00	1.83	13.77	20.75	13.77	2.36	3.35	3.97		5.55	6.40		1.42	2.12	2.63		4.61	5.98	
A13	5.95	A	38.7	0.24	0.26	0.27	0.30	0.36	0.41	0.50	265.00			0.020	19.72	790.00			0.010	20	2.00	6.58	26.31	28.55	26.31	1.69	2.40	2.84		3.98	4.59		2.46	3.67	4.59		8.42	11.23	
A14	0.70	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	165.00			0.010	20	2.00	1.38	4.96	20.15	5.00	3.39	4.82	5.70		7.97	9.19		0.71	1.05	1.30		2.28	2.96	
A15	2.31	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	115.00			0.010	15.28	705.00			0.010	20	2.00	5.88	21.16	26.03	21.16	1.91	2.71	3.21		4.49	5.17		1.31	1.95	2.42		4.24	5.51	
A16	1.79	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	110.00			0.010	14.94	705.00			0.010	20	2.00	5.88	20.82	26.03	20.82	1.93	2.73	3.24		4.53	5.22		1.02	1.52	1.89		3.32	4.30	
A17	0.38	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	85.00			0.030	9.14	35.00			0.010	20	2.00	0.29	9.43	18.73	9.43	2.77	3.93	4.65		6.50	7.50		0.31	0.46	0.58		1.01	1.31	
A18	1.38	A	28.0	0.16	0.17	0.18	0.21	0.26	0.33	0.43	255.00			0.020	21.34	85.00			0.010	20	2.00	0.71	22.05	22.34	22.05	1.87	2.65	3.14		4.39	5.06		0.41	0.62	0.79		1.60	2.29	
A19	4.00	A	21.1	0.11	0.12	0.13	0.15	0.21	0.27	0.39	150.00			0.040	13.74	660.00			0.005	20	1.41	7.78	21.52	35.43	21.52	1.89	2.69	3.18		4.45	5.13		0.84	1.27	1.63		3.65	5.63	
A20	2.05	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	155.00			0.020	14.11	235.00			0.010	20	2.00	1.96	16.07	20.91	16.07	2.20	3.12	3.69		5.16	5.95		1.34	1.99	2.47		4.33	5.62	
A21	0.87	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	115.00			0.020	12.16	185.00			0.010	20	2.00	1.54	13.70	20.37	13.70	2.37	3.36	3.98		5.56	6.42		0.61	0.91	1.13		1.98	2.57	
A22	1.42	A	33.2	0.20	0.21	0.22	0.26	0.31	0.37	0.47	120.00			0.020	13.99	220.00			0.010	20	2.00	1.83	15.82	23.04	15.82	2.21	3.14	3.72		5.20	6.00		0.63	0.94	1.18		2.28	3.14	
A23	2.32	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	210.00			0.020	16.43	245.00			0.010	20	2.00	2.04	18.47	21.02	18.47	2.05	2.91	3.44		4.82	5.56		1.41	2.10	2.61		4.57	5.94	
A24	0.46	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	75.00			0.030	8.59	80.00			0.010	20	2.00	0.67	9.25	19.22	9.25	2.79	3.96	4.68		6.55	7.55		0.38	0.57	0.70		1.23	1.60	
A25	4.42	A	41.8	0.27	0.28	0.30	0.33	0.38	0.44	0.52	185.00			0.040	12.70	590.00			0.010	20	2.00	4.92	17.62	25.51	17.62	2.10	2.98	3.53		4.93	5.69		2.50	3.73	4.65		8.33	10.95	
A26	6.64	A	35.1	0.21	0.23	0.24	0.27	0.32	0.38	0.48	205.00			0.030	15.72	685.00			0.010	20	2.00	5.71	21.42	28.24	21.42	1.90	2.69	3.19		4.46	5.14		2.71	4.05	5.09		9.61	13.09	
A27	1.32	A	33.5	0.20	0.21	0.23	0.26	0.31	0.37	0.47	120.00			0.030	12.20	115.00			0.010	20	2.00	0.96	13.16	21.71	13.16	2.41	3.42	4.05		5.66	6.53		0.64	0.96	1.21		2.33	3.20	
A28	0.73	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	90.00			0.020	10.75	165.00			0.010	20	2.00	1.38	12.13	20.15	12.13	2.50	3.55	4.20		5.87	6.77		0.54	0.81	1.00		1.75	2.28	
A29	0.97	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	170.00			0.030	12.93	195.00			0.010	20	2.00	1.63	14.55	20.47	14.55	2.30	3.27	3.87		5.41	6.24		0.66	0.99	1.22		2.15	2.79	
A30	0.87	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	90.00			0.030	9.41	260.00			0.010	20	2.00	2.17	11.57	21.18	11.57	2.55	3.62	4.28		5.99	6.91		0.66	0.98	1.22		2.13	2.77	
A31	1.57	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.020	13.65	95.00			0.010	20	2.00	0.79	14.44	19.38	14.44	2.31	3.28	3.88		5.43	6.26		1.08	1.60	1.99		3.49	4.53	
A32	2.24	A	13.3	0.06	0.07	0.07	0.09	0.14	0.21	0.34	405.00			0.020	29.90	165.00			0.020	15	2.12	1.30	31.20	25.53	25.53	1.72	2.45	2.89		4.05	4.67		0.23	0.36	0.47		1.26	2.23	
A33	1.56	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	65.00			0.020	9.14	475.00			0.010	20	2.00	3.96	13.10	23.52	13.10	2.42	3.43	4.06		5.68	6.55		1.12	1.66	2.07		3.63	4.70	
A34	2.66	A	16.7	0.08	0.09	0.10	0.12	0.17	0.24	0.36	125.00			0.040	12.93	270.00			0.010	15	1.50	3.00	15.93	27.13	15.93	2.21	3.13	3.71		5.18	5.98		0.48	0.73	0.95		2.31	3.82	
A35	0.86	A	34.3	0.21	0.22	0.23	0.27	0.32	0.38	0.48	55.00			0.020	9.38	325.00			0.010	15	1.50	3.61	12.99	24.09	12.99	2.43	3.44	4.07		5.70	6.57		0.43	0.65	0.82		1.56	2.13	
A36	0.67	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	100.00			0.030	15	2.60	0.64	4.23	18.98	5.00	3.39	4.82	5.70		7.97	9.19		0.67	1.00	1.25		2.19	2.84	
A37	2.44	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	85.00			0.020	10.45	275.00			0.010	20	2.00	2.29	12.74	21.35	12.74	2.45	3.47	4.11		5.75	6.63		1.77	2.63	3.27		5.74	7.45	
A38	3.18	A	36.1	0.22	0.23	0.25	0.28	0.33	0.39	0.49	135.00			0.030	12.63	170.00			0.010	20	2.00	1.42	14.05	21.88	14.05	2.34	3.32	3.93		5.50	6.34		1.66	2.48	3.11		5.83	7.89	
B1	1.93	A	28.1	0.16	0.17	0.18	0.21	0.26	0.33	0.44	10.00			0.020	4.22	50.00			0.010	20	2.00	0.42	4.64	21.87	5.00	3.39	4.82	5.70		7.97	9.19		1.05	1.58	2.01		4.08	5.83	
B2	2.39	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	20.00			0.030	6.02	10.00			0.020	7	0.99	0.17	6.19	24.93	10.00	2.71	3.84	4.55		6.36	7.33		0.17	0.27	0.36		1.29	2.88	

BASIN	PEAK FLOW, Q (CFS)	
	5-YR	100-YR
A1	0.34	3.71
A2	0.42	1.19
A3	0.53	1.51
A4	3.03	9.20
A5	2.48	7.03
A6	1.21	3.41
A7	1.02	2.87
A8	0.17	1.79
A9	0.69	1.94
A10	0.55	1.56
A11	1.37	3.87
A12	2.12	5.98
A13	3.67	11.23
A14	1.05	2.96
A15	1.95	5.51
A16	1.52	4.30
A17	0.46	1.31
A18	0.62	2.29
A19	1.27	5.63
A20	1.99	5.62
A21	0.91	2.57
A22	0.94	3.14
A23	2.10	5.94
A24	0.57	1.60
A25	3.73	10.95
A26	4.05	13.09
A27	0.96	3.20
A28	0.81	2.28
A29	0.99	2.79
A30	0.98	2.77
A31	1.60	4.53
A32	0.36	2.23
A33	1.66	4.70
A34	0.73	3.82
A35	0.65	2.13
A36	1.00	2.84
A37	2.63	7.45
A38	2.48	7.89
TOTAL TO POND 3	53.6	166.8
B1	1.58	5.83
B2	0.27	2.88
TOTAL OFF-SITE	1.9	8.7

APPENDIX D – Inlet and Street Capacity Calculations

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 2	Inlet 3	Inlet 4
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.2	1.6	3.0
Major Q_{Known} (cfs)	2.4	3.2	9.2

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.2**	**1.6**	**3.0**
Major Total Design Peak Flow, Q (cfs)	**2.4**	**3.2**	**9.2**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 5	Inlet 6	Inlet 7
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.5	1.2	1.0
Major Q_{Known} (cfs)	7.0	3.4	2.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.5**	**1.2**	**1.0**
Major Total Design Peak Flow, Q (cfs)	**7.0**	**3.4**	**2.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 9	Inlet 10	Inlet 11
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.9	1.6	1.4
Major Q_{Known} (cfs)	3.8	3.2	3.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.9**	**1.6**	**1.4**
Major Total Design Peak Flow, Q (cfs)	**3.8**	**3.2**	**3.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 12
Site Type (Urban or Rural)	URBAN
Inlet Application (Street or Area)	STREET
Hydraulic Condition	In Sump
Inlet Type	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.1
Major Q_{Known} (cfs)	6.0

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0

Watershed Characteristics

Subcatchment Area (acres)	
Percent Impervious	
NRCS Soil Type	

Watershed Profile

Overland Slope (ft/ft)	
Overland Length (ft)	
Channel Slope (ft/ft)	
Channel Length (ft)	

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.1**
Major Total Design Peak Flow, Q (cfs)	**6.0**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 13	Inlet 14	Inlet 15
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	3.7	2.8	2.0
Major Q_{Known} (cfs)	11.2	5.5	5.5

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**3.7**	**2.8**	**2.0**
Major Total Design Peak Flow, Q (cfs)	**11.2**	**5.5**	**5.5**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 16	Inlet 17	Inlet 18
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.0	0.5	0.6
Major Q_{Known} (cfs)	4.3	1.3	2.3

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.0**	**0.5**	**0.6**
Major Total Design Peak Flow, Q (cfs)	**4.3**	**1.3**	**2.3**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 20	Inlet 21	Inlet 22
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.0	0.9	0.9
Major Q_{Known} (cfs)	5.6	2.6	3.1

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.0**	**0.9**	**0.9**
Major Total Design Peak Flow, Q (cfs)	**5.6**	**2.6**	**3.1**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 23
Site Type (Urban or Rural)	URBAN
Inlet Application (Street or Area)	STREET
Hydraulic Condition	In Sump
Inlet Type	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.1
Major Q_{Known} (cfs)	5.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0

Watershed Characteristics

Subcatchment Area (acres)	
Percent Impervious	
NRCS Soil Type	

Watershed Profile

Overland Slope (ft/ft)	
Overland Length (ft)	
Channel Slope (ft/ft)	
Channel Length (ft)	

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.1**
Major Total Design Peak Flow, Q (cfs)	**5.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 24	Inlet 25	Inlet 26
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.6	3.7	4.1
Major Q_{Known} (cfs)	1.6	11.0	13.1

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.6**	**3.7**	**4.1**
Major Total Design Peak Flow, Q (cfs)	**1.6**	**11.0**	**13.1**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 27	Inlet 28	Inlet 29
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.0	0.8	1.0
Major Q_{Known} (cfs)	3.2	2.3	2.8

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.0**	**0.8**	**1.0**
Major Total Design Peak Flow, Q (cfs)	**3.2**	**2.3**	**2.8**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 30	Inlet 31	Inlet 33
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.0	1.6	1.7
Major Q_{Known} (cfs)	2.8	4.5	4.7

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.0**	**1.6**	**1.7**
Major Total Design Peak Flow, Q (cfs)	**2.8**	**4.5**	**4.7**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 37	Inlet 38
Site Type (Urban or Rural)	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET
Hydraulic Condition	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.6	2.5
Major Q_{Known} (cfs)	7.5	7.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)		
Percent Impervious		
NRCS Soil Type		

Watershed Profile

Overland Slope (ft/ft)		
Overland Length (ft)		
Channel Slope (ft/ft)		
Channel Length (ft)		

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

CALCULATED OUTPUT

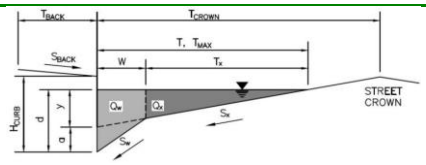
Minor Total Design Peak Flow, Q (cfs)	**2.6**	**2.5**
Major Total Design Peak Flow, Q (cfs)	**7.5**	**7.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 2**



Gutter Geometry:

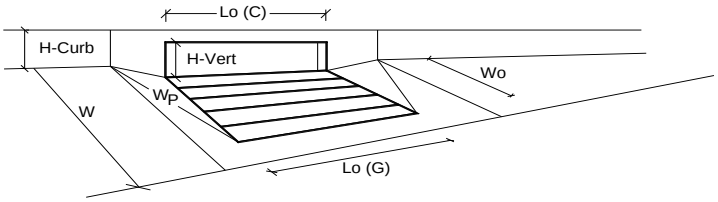
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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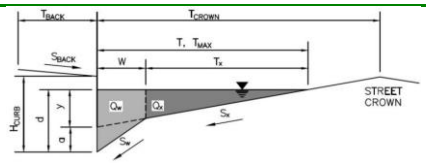
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.2	2.4	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 3**



Gutter Geometry:

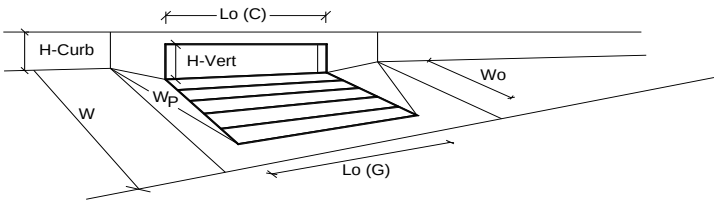
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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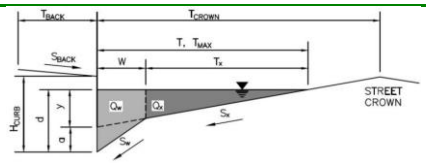
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 4**



Gutter Geometry:

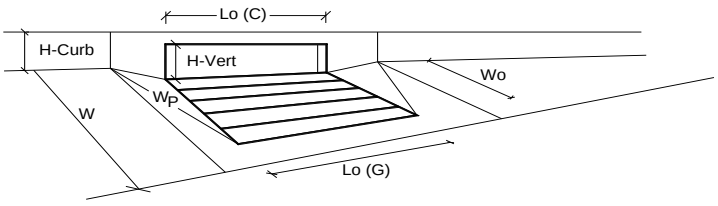
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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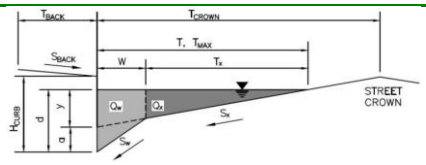
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.0	9.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 5**



Gutter Geometry:

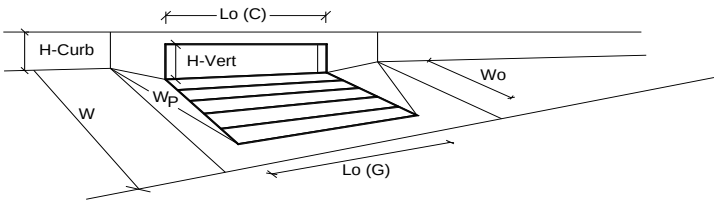
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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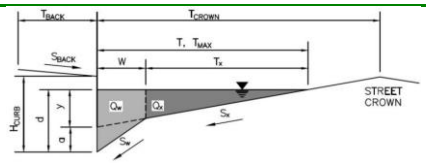
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.5	7.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 6**



Gutter Geometry:

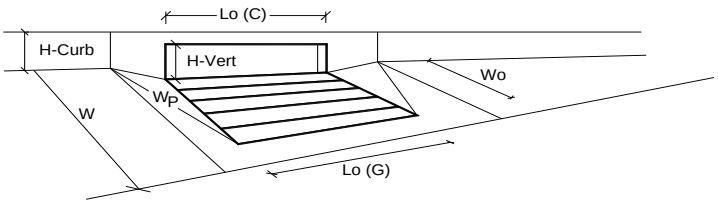
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



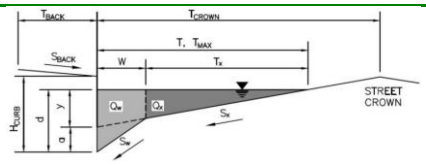
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.2	3.4	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 7**



Gutter Geometry:

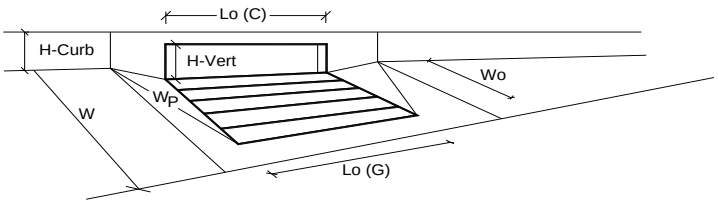
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



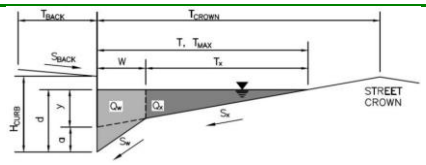
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 9**



Gutter Geometry:

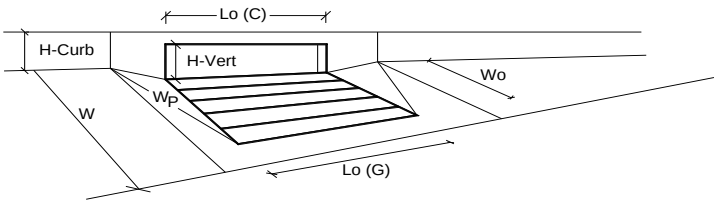
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



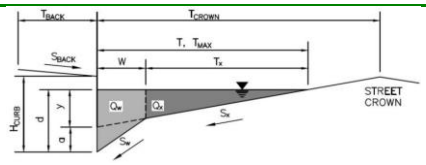
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.9	3.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 10**



Gutter Geometry:

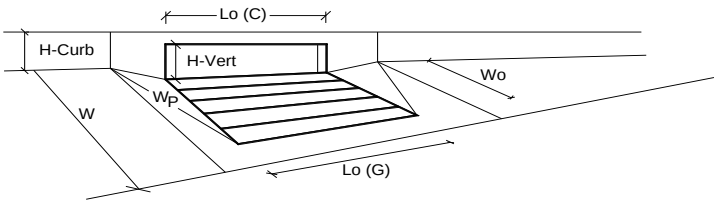
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



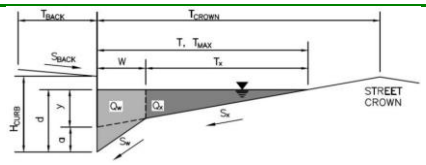
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 11**



Gutter Geometry:

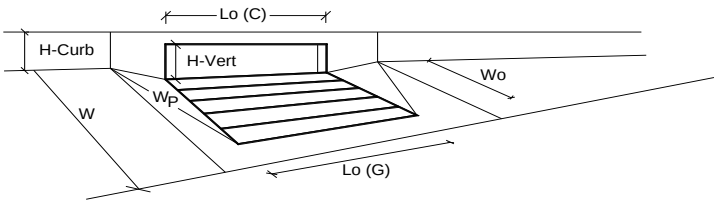
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



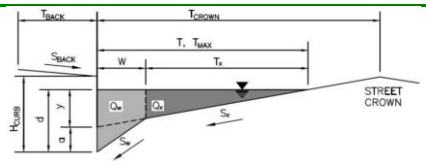
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.4	3.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 12**



Gutter Geometry:

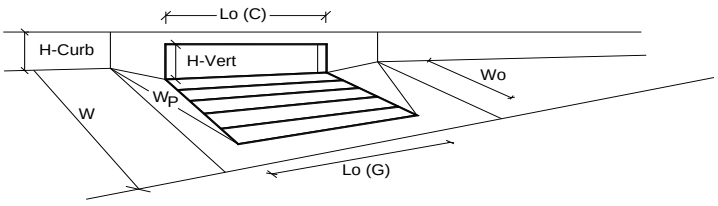
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



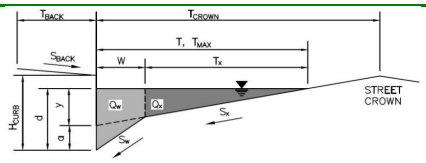
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.1	6.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 13



Gutter Geometry:

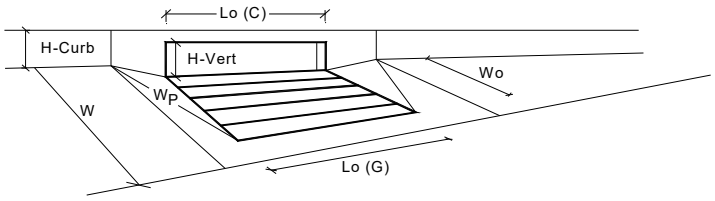
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

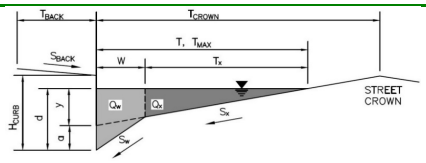
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.7	11.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 14



Gutter Geometry:

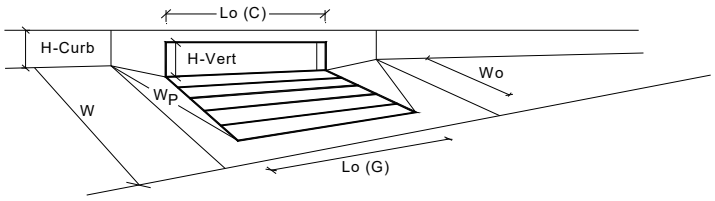
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



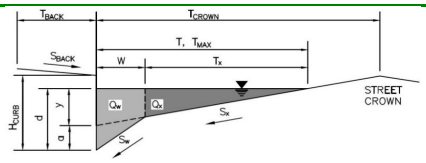
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.8	5.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 15



Gutter Geometry:

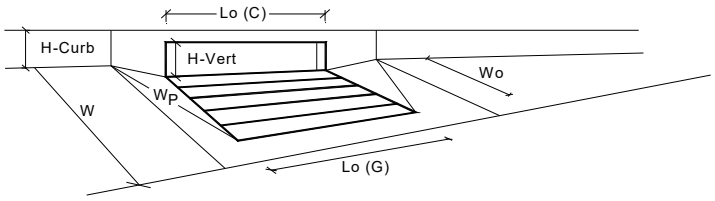
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

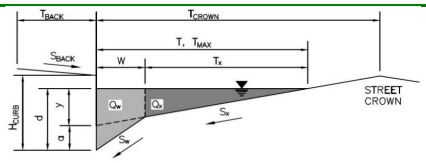
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	5.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 16



Gutter Geometry:

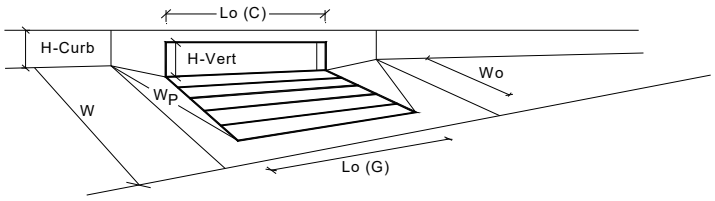
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

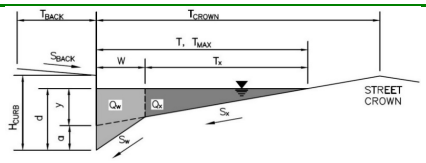
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	4.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 17



Gutter Geometry:

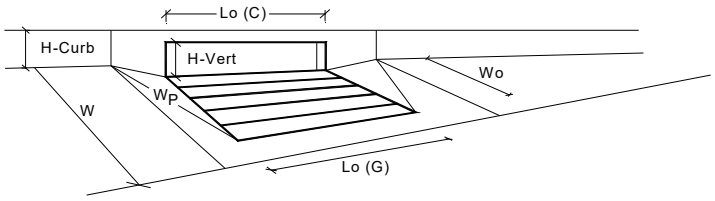
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

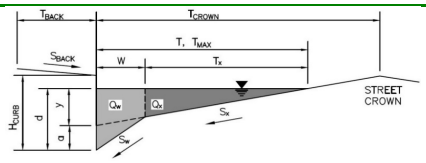
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.5	1.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 18



Gutter Geometry:

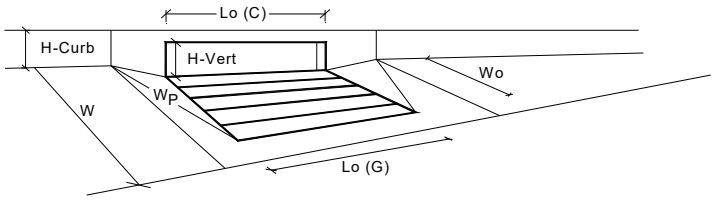
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

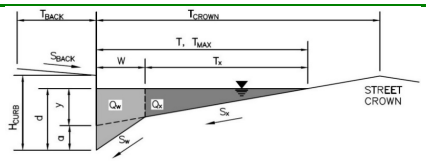
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.6	2.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 20



Gutter Geometry:

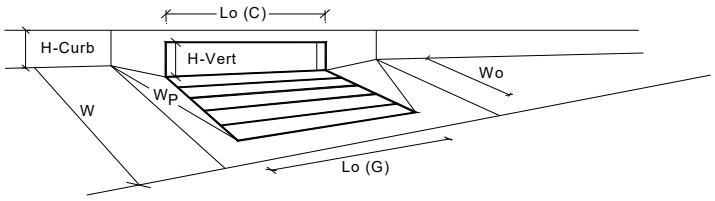
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

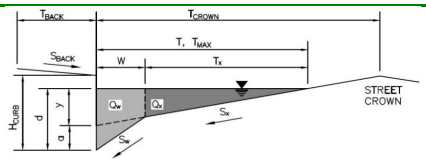
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	5.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 21



Gutter Geometry:

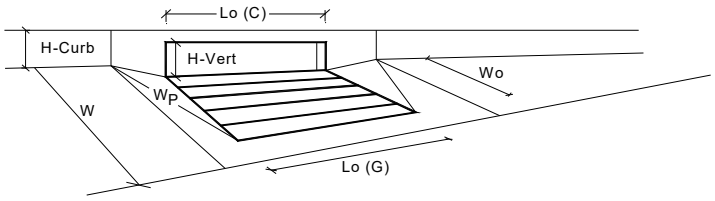
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

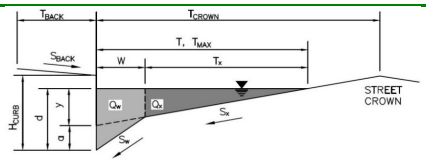
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.9	2.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 22**



Gutter Geometry:

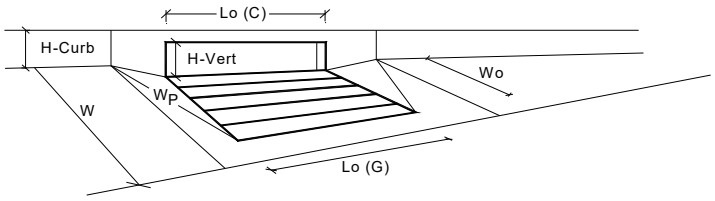
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



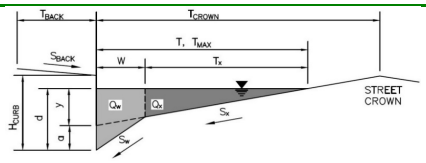
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.9	3.1	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 23



Gutter Geometry:

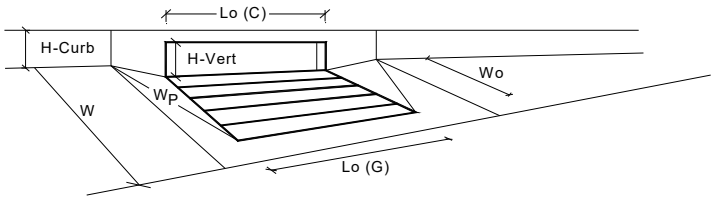
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

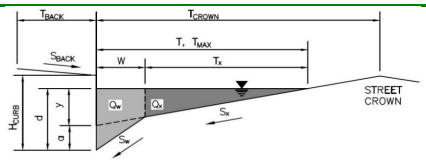
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.1	5.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 24**



Gutter Geometry:

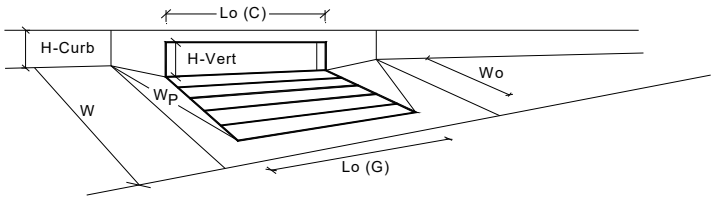
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

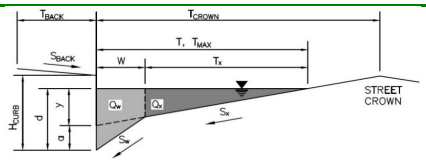
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.6	1.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 25



Gutter Geometry:

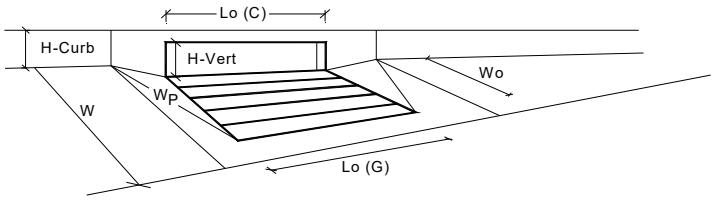
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

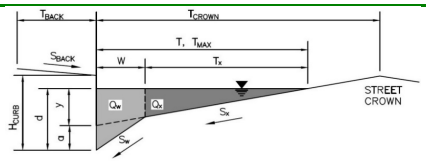
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.7	11.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 26



Gutter Geometry:

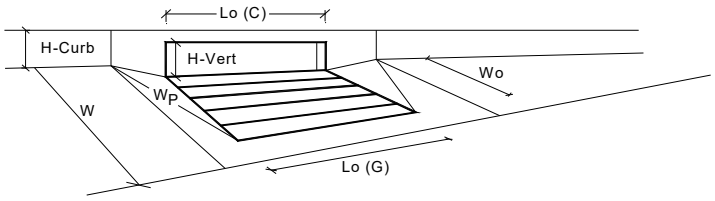
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

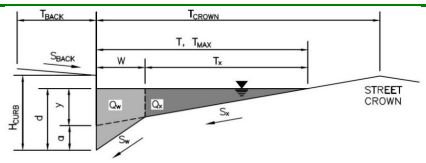
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	4.1	13.1	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 27



Gutter Geometry:

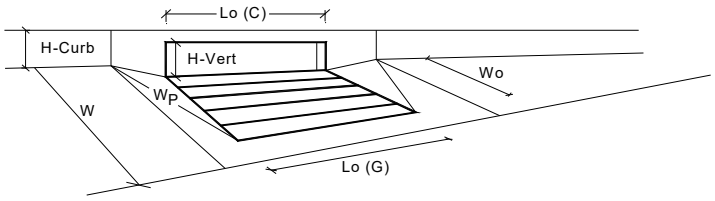
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



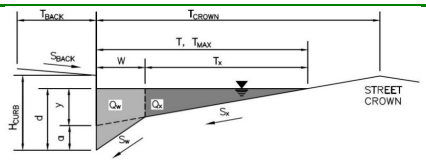
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 28



Gutter Geometry:

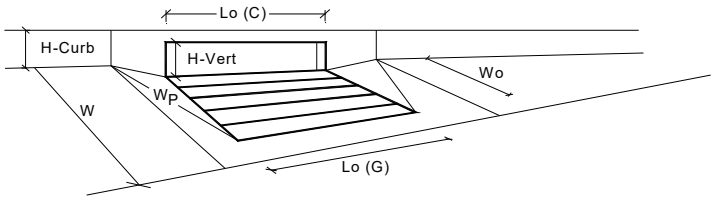
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



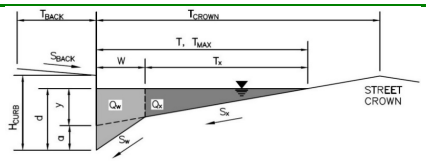
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.57	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**10.5**	**27.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.8	2.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 29



Gutter Geometry:

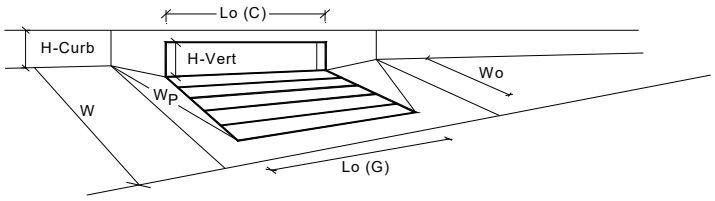
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.57	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

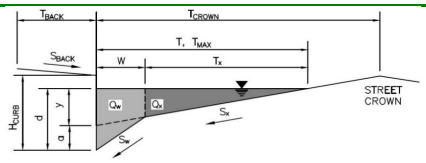
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**10.5**	**27.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 30



Gutter Geometry:

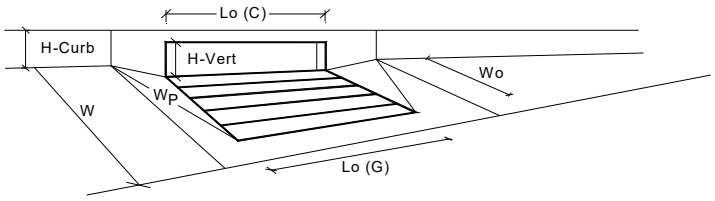
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



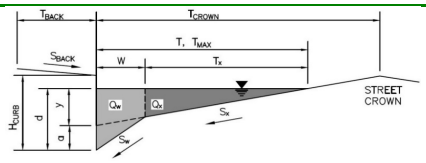
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 31



Gutter Geometry:

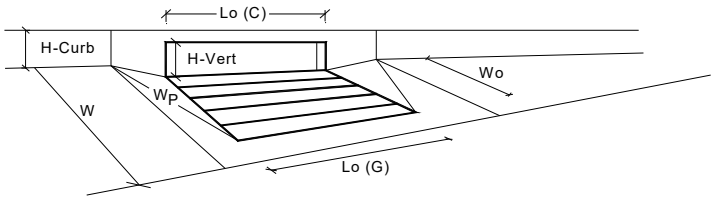
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



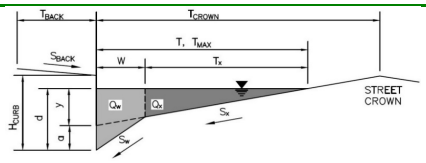
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	4.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 33



Gutter Geometry:

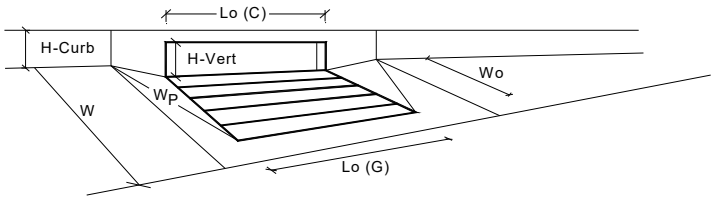
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

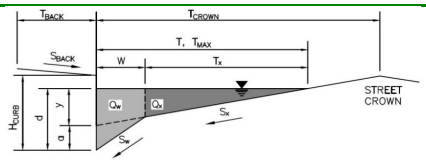
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.7	4.7	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 37**



Gutter Geometry:

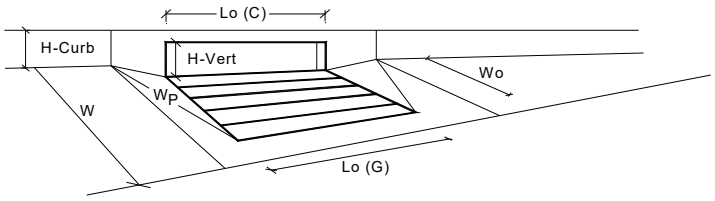
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

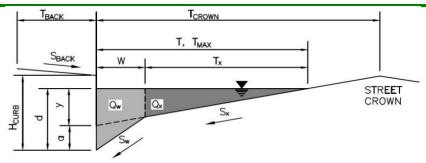
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.6	7.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 38



Gutter Geometry:

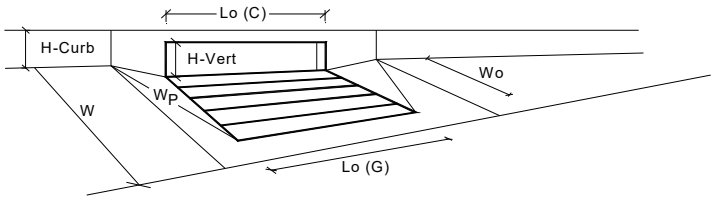
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



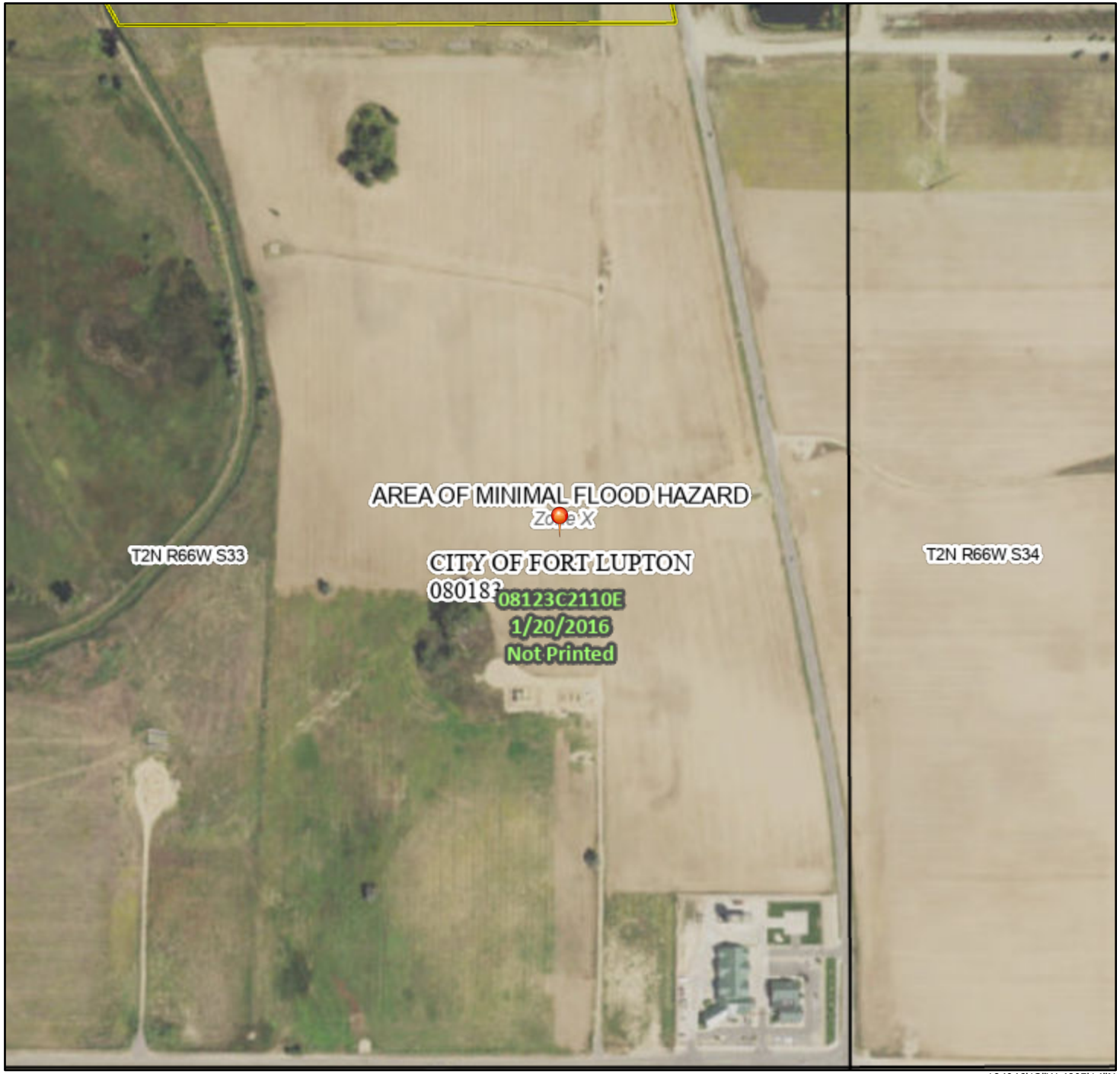
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.5	7.9	cfs

APPENDIX G – Referenced Material

National Flood Hazard Layer FIRMette

FEMA

104°46'51"W 40°5'42"N



104°46'13"W 40°5'14"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/23/2021 at 4:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

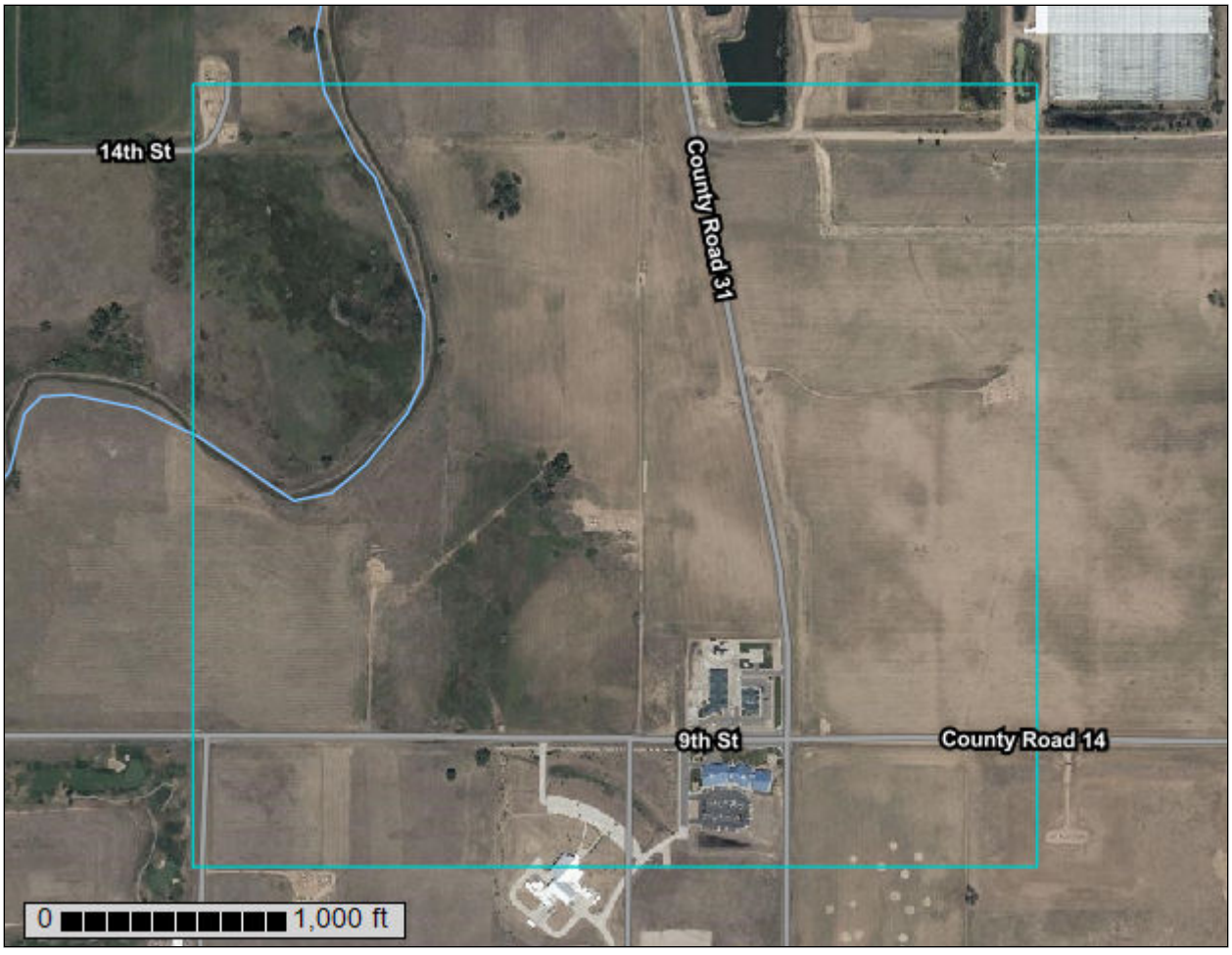
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Weld County, Colorado, Southern Part



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

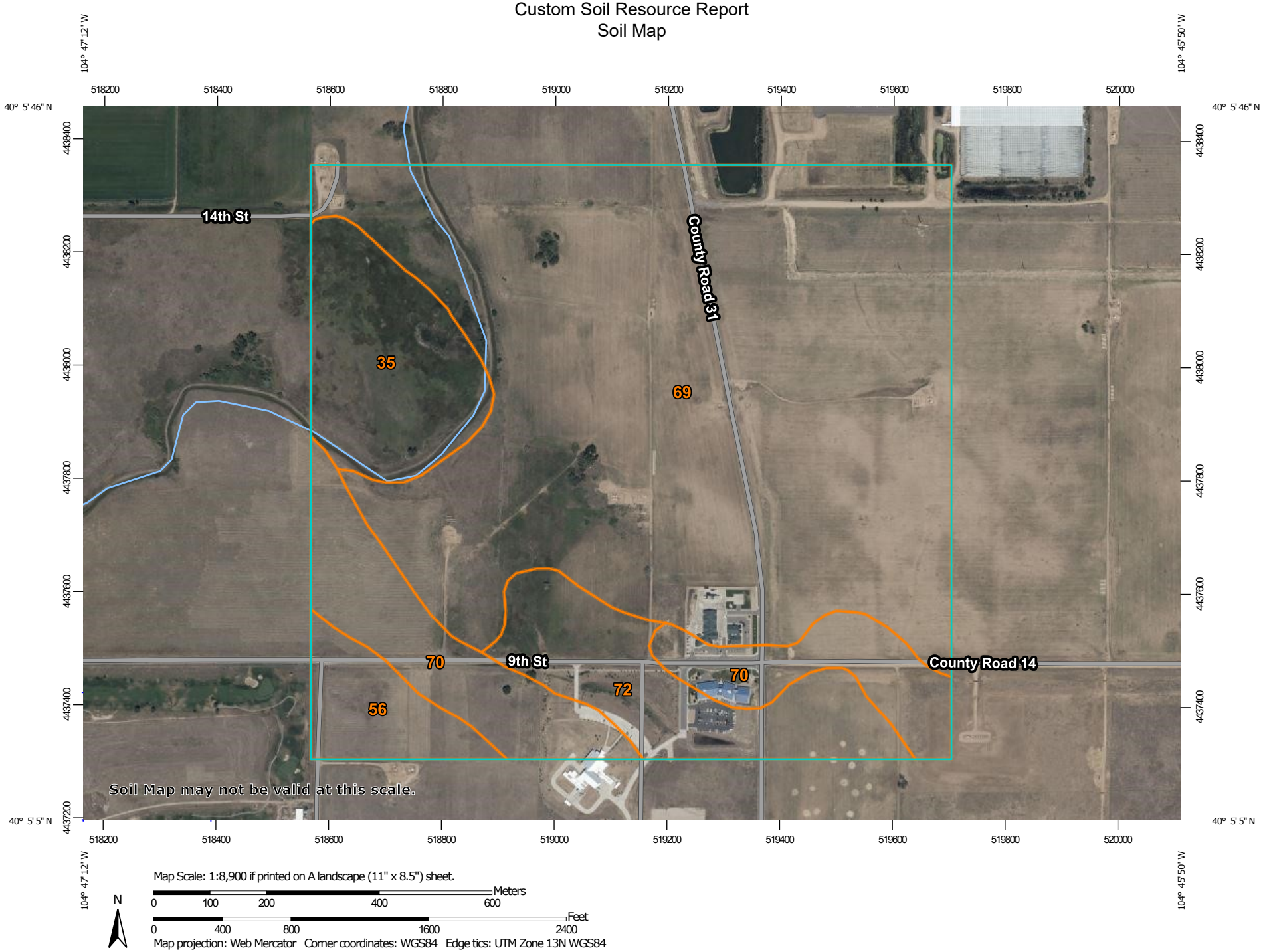
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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56—Renohill clay loam, 0 to 3 percent slopes..... 11
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:8,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35	Loup-Boel loamy sands, 0 to 3 percent slopes	26.6	9.0%
56	Renohill clay loam, 0 to 3 percent slopes	11.8	4.0%
69	Valent sand, 0 to 3 percent slopes	192.8	65.1%
70	Valent sand, 3 to 9 percent slopes	37.7	12.7%
72	Vona loamy sand, 0 to 3 percent slopes	27.1	9.2%
Totals for Area of Interest		**296.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Weld County, Colorado, Southern Part

35—Loup-Boel loamy sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 362f
Elevation: 4,550 to 4,750 feet
Mean annual precipitation: 11 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 130 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Loup and similar soils: 55 percent
Boel and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loup

Setting

Landform: Swales, drainageways, streams
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

H1 - 0 to 16 inches: loamy sand
H2 - 16 to 40 inches: loamy sand
H3 - 40 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Ecological site: R067BY029CO - Sandy Meadow
Hydric soil rating: Yes

Description of Boel

Setting

Landform: Drainageways, streams, swales
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Stratified sandy alluvium

Typical profile
H1 - 0 to 14 inches: loamy sand
H2 - 14 to 60 inches: loamy sand

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups
Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A
Ecological site: R067BY029CO - Sandy Meadow
Hydric soil rating: No

Minor Components

Osgood
Percent of map unit: 5 percent
Hydric soil rating: No

Valent
Percent of map unit: 5 percent
Hydric soil rating: No

56—Renohill clay loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 3635
Elevation: 4,850 to 5,200 feet
Mean annual precipitation: 11 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Renohill and similar soils: 85 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Renohill

Setting

Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from shale

Typical profile

H1 - 0 to 9 inches: clay loam
H2 - 9 to 32 inches: clay loam
H3 - 32 to 36 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R067BY042CO - Clayey Plains
Hydric soil rating: No

Minor Components

Ulm

Percent of map unit: 10 percent
Hydric soil rating: No

Shingle

Percent of map unit: 5 percent
Hydric soil rating: No

69—Valent sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tczd
Elevation: 3,000 to 5,210 feet
Mean annual precipitation: 13 to 20 inches
Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 130 to 166 days
Farmland classification: Farmland of local importance

Map Unit Composition

Valent and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valent

Setting

Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Noncalcareous eolian sands

Typical profile

A - 0 to 5 inches: sand
AC - 5 to 12 inches: sand
C1 - 12 to 30 inches: sand
C2 - 30 to 80 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.1 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R067BY015CO - Deep Sand, R072XA021KS - Sands (North) (PE 16-20)
Hydric soil rating: No

Minor Components

Dailey

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY015CO - Deep Sand, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)

Hydric soil rating: No

Julesburg

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

Vona

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

70—Valent sand, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2tczf
Elevation: 3,050 to 5,150 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Valent and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valent

Setting

Landform: Dunes, hills
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Noncalcareous eolian sands

Typical profile

A - 0 to 5 inches: sand

AC - 5 to 12 inches: sand
C1 - 12 to 30 inches: sand
C2 - 30 to 80 inches: sand

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R072XY109KS - Rolling Sands, R067BY015CO - Deep Sand
Hydric soil rating: No

Minor Components

Dailey

Percent of map unit: 10 percent
Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY015CO - Deep Sand, R072XA021KS - Sands (North) (PE 16-20)
Hydric soil rating: No

Vona

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, nose slope, side slope, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

Haxtun

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: R067BY024CO - Sandy Plains, R072XY111KS - Sandy Plains
Hydric soil rating: No

72—Vona loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 363r
Elevation: 4,600 to 5,200 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Farmland of local importance

Map Unit Composition

Vona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vona

Setting

Landform: Terraces, plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 6 inches: loamy sand
H2 - 6 to 28 inches: fine sandy loam
H3 - 28 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: R067BY024CO - Sandy Plains
Hydric soil rating: No

Minor Components

Remmit

Percent of map unit: 10 percent
Hydric soil rating: No

Valent

Percent of map unit: 5 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

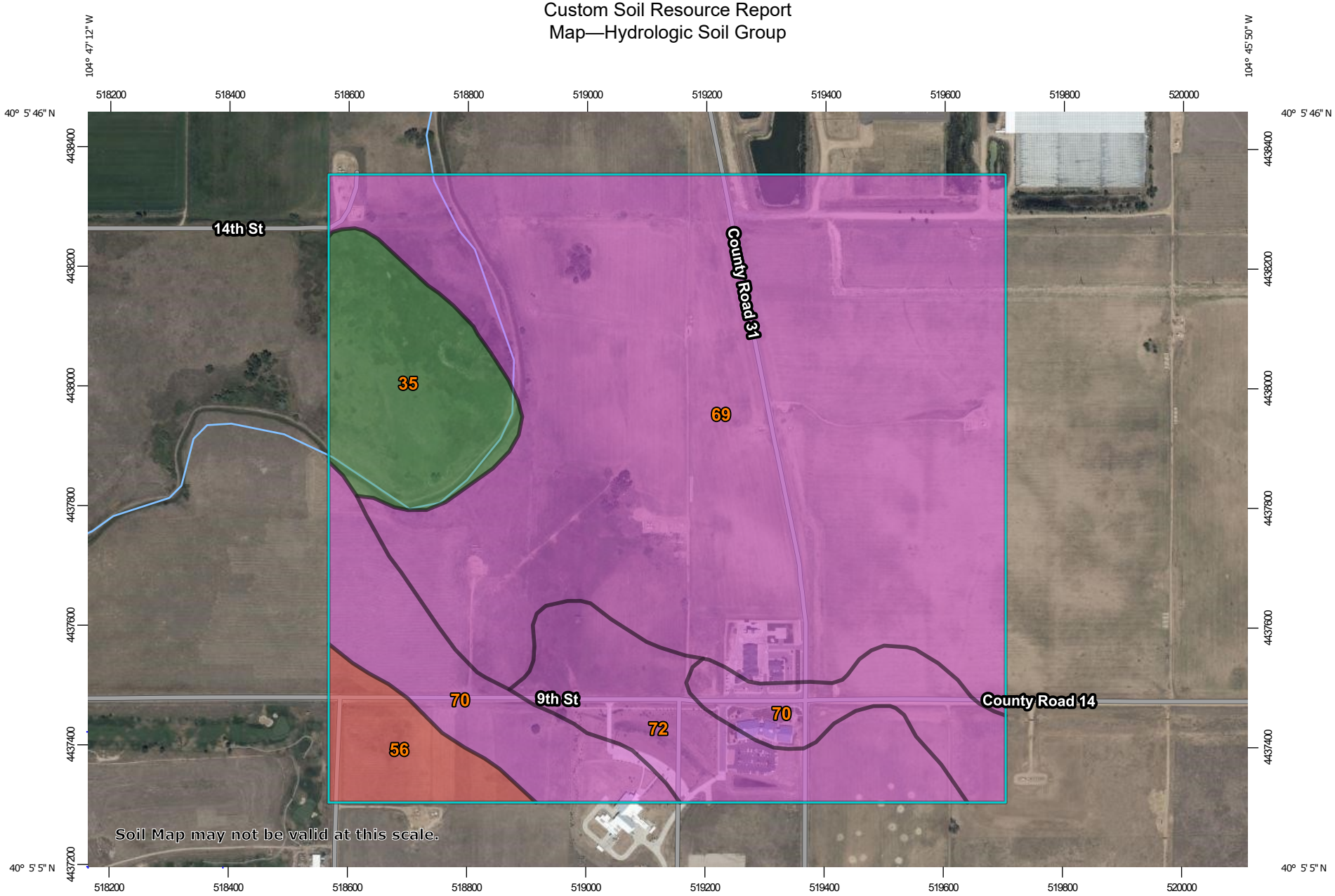
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.


104° 47' 12" W
104° 45' 50" W
518200
518400
518600
518800
519000
519200
519400
519600
519800
520000
40° 5' 46" N
40° 5' 5" N
4438400
4438200
4438000
4437800
4437600
4437400
4437200
14th St
County Road 31
9th St
County Road 14
35
69
70
72
70
56
Soil Map may not be valid at this scale.
Map Scale: 1:8,900 if printed on A landscape (11" x 8.5") sheet.
N
0 100 200 400 600 Meters
0 400 800 1600 2400 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35	Loup-Boel loamy sands, 0 to 3 percent slopes	A/D	26.6	9.0%
56	Renohill clay loam, 0 to 3 percent slopes	D	11.8	4.0%
69	Valent sand, 0 to 3 percent slopes	A	192.8	65.1%
70	Valent sand, 3 to 9 percent slopes	A	37.7	12.7%
72	Vona loamy sand, 0 to 3 percent slopes	A	27.1	9.2%
Totals for Area of Interest			**296.0**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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BLUE MOUNTAIN
Environmental Consulting LLC

December 5, 2018

Jim Righeimer
Arbor Capital Partners LLC
4040 MacArthur Blvd., Ste. 250
Newport Beach, CA 92660

RE: Ecological Characterization Study, Cottonwood Greens

Mr. Righeimer:

This report is submitted to provide a brief overview of ecological function of the subject property. Report content is reflective of plan guidance employed by the City of Fort Collins and developed through conversations with Todd Hodges (Planning Director) and Alyssa Knutson (Planner) with the Fort Lupton Planning Department. Chris Mettenbrink, Colorado Parks and Wildlife District Wildlife Manager was also consulted regarding management recommendations and compliance.

The site was visited by Matt Tobler with Blue Mountain Environmental Consulting on November 28, 2018. A pedestrian survey of the entire property was conducted to evaluate ecological characteristics. A wetland associated with the south side of Fulton Ditch was delineated and flagged in accordance with U.S. Army Corps of Engineers' methodologies.

Feel free to contact me with any questions you may have.

Sincerely,
Matt Tobler

Natural Resource Specialist, Certified Ecologist
Blue Mountain Environmental Consulting, LLC

Project Background

The project is located east of Fort Lupton, Colorado; it is situated between 9th Street and 14th Street on the west side of County Road 31 and south of the Fulton Ditch as illustrated on the maps provided in Appendix A. The property is undeveloped; the northeast portion is presently used to produce row crops while the remainder is fallow. Current and historical land uses include agriculture and grazing. There are access roads, oil and gas infrastructure and fences. Surrounding properties include a golf course to the south and residential, agricultural or vacant land in all other directions. The Fort Lupton Fire Station 2 is situated near the intersection of County Road 31 and 9th Street.

The proposed development entails the construction of 278 single-family homes, 150 townhomes and associated arterials as well as major and minor collector streets on the approximately 122.49-acre property. The Cottonwood Greens Concept Plan dated Fall 2018, prepared by the TB Group (here incorporated by reference), illustrates the proposed development. Site maps are provided in Appendix A; site photos are provided in Appendix B.

General Ecological Function

The property is situated on the eastern plains of Colorado between 4,981 and 4,776 feet of elevation. In the rain shadow of the Rocky Mountains, the region historically supported mixed prairies co-dominated by prairie sandreed (*Calamovilfa longifolia*), sand bluestem (*Andropogon hallii*), switchgrass (*Panicum virgatum*), Indian ricegrass (*Oryzopsis hymenoides*), western wheatgrass (*Agropyron smithii*), blue grama (*Bouteloua gracilis*) and a mix of other warm- and cool-season grasses and forbs. The predominant ecological site (a Natural Resource Conservation Service ascribed ecological description) is deep sand. “This plant community evolved with grazing by large herbivores and is well suited for grazing by domestic livestock” (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on 12/3/2018).

Most regional lands have been converted to agricultural use; other regional land uses that have resulted in habitat loss and fragmentation include residential development, oil, gas, water and transportation infrastructure development and recreational use.

Soils are friable and therefore, when left fallow, provide habitat for a wide variety of burrowing animals and associated predatory species. According to the Natural Resource Conservation Service Web Soil Survey, approximately 58% of the soils at the property are ‘Soils of Local Importance,’ 27% are ‘Prime if Irrigated’ and 6% are soils of ‘Statewide Importance.’

Vegetation

The northeastern portion of the property is planted to winter wheat. The majority of the western portion is a fallow field which contains an abandoned prairie dog town and now supports early seral and exotic vegetation. The Fulton Ditch, which meanders along the northern property

boundary, provides a degree of connectivity to adjoining lands and supports robust communities of native vegetation including small trees, shrubs, grasses and sedges.

The fallow field and abandoned prairie dog town was dominated by Russian thistle (*Salsola tragus*), kochia (*Bassia scoparia*), yellow sweet clover (*Melilotus officinalis*) and prickly lettuce (*Lactuca serriola*). Other observed species within this community and along the edges of fields include sand sage (*Artemisia filifolia*), prairie sunflower (*Helianthus petiolaris*), pepperweed (*Lepidium* sp.), musk thistle (*Carduus nutans*), plains prickly pear (*Opuntia polyacantha*), Scotch thistle (*Onopordum acanthium*), horseweed (*Conyza* sp.), ragweed (*Ambrosia* sp.), yellow salsify (*Tragopogon dubius*), smooth brome (*Bromus inermis*), cheatgrass (*Bromus tectorum*), western wheatgrass, lovegrass (*Eragrostis cilianensis*), little bluestem (*Schizachyrium scoparium*), saltgrass (*Distychlis spicata*), blue grama and intermediate wheatgrass (*Thinopyrum intermedium*).

The riparian corridor associated with Fulton Ditch is dominated by reed canarygrass (*Phalaris arundinacea*) and sedge (*Carex spp.*). A few Siberian elm (*Ulmus pumila*) and peachleaf willow (*Salix amygdaloides*) trees were observed, wild rose (*Rosa* sp.) was also present but not abundant. Other prominent herbaceous common species include milkweed (*Asclepias* sp.), dock (*Rumex* sp.), Canada thistle (*Cirsium arvense*), cattail (*Typha* sp.) and a variety of sedge.

Noxious species include Scotch thistle and Canada thistle.

Wetlands

Herbaceous wetland and open water areas found on the property are associated with the Fulton Ditch. A narrow wetland band approximately two to five feet wide occurs on each side of Fulton Ditch. The herbaceous wetland area on the southern side of the ditch was delineated with red pin flags in accordance with the Regional Supplement to the Army Corps of Engineers' Wetland Delineation Manual: Great Plains Region (Version 2.0). The open water width of this active irrigation ditch is approximately 8 feet. The Ditch was not flowing at the time of delineation. These wetland and open water areas are likely considered "Waters of the United States" and subject to regulation if impacted. No other wetland or open water areas other than those directly associated with the Fulton Ditch were found on the property.

Wetland vegetation was demonstrated with the Dominance Test. Dominant hydrophytic species include reed canarygrass, three square (*Schenoplectus pugens*) and sedge (*Carex* spp.). Hydric soils were demonstrated via Depleted Matrix (F3) and hydrology was demonstrated by Geomorphic Position, FAC-Neutral Test and Oxidized Rhizospheres. The transition to upland status was marked by a break in topography and shift in dominance to smooth brome and other upland species. (Wetland data forms are available upon request.)

This wetland is identified as Riverine on the National Wetland Inventory (NWI) Map provided in Appendix A. The approximate location of the southern boundary of this wetland is indicated on the Wetlands Map provided in Appendix A.

Flood Zone

According to the FEMA Flood Map Service Center (https://msc.fema.gov/portal/home acessed on November 30, 2018), the property occurs on Map Panel (08123C2104E) and is designated as an 'area of minimal flood hazard'. Likewise, it is not listed as a flood hazard on the Weld County Property Portal https://www.co.weld.co.us/maps/propertyportal/ accessed on November 30, 2018.

2.2 Wildlife

The Natural Diversity Information Source (NDIS 2010) identified 61 mammal, 297 bird, 23 reptile, eight amphibian and 38 furbearer and game species occurring within Weld County (a comprehensive species list is provided in Appendix E). Although heavily disturbed, the property is likely to provide habitat for a variety of mammals, birds and reptiles.

Small mammals such as deer mouse (*Peromyscus maniculatus*), meadow vole (*Microtus pennsylvanicus*), mountain cotton tail (*Sylvilagus nuttallii*) and white-tailed jackrabbit (*Lepus townsendii*) could utilize the property year round. Friable soils and abandoned prairie dog burrows provide abundant denning habitat. Predators and mesopredators expected to make use of the site include coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes fulva*), gray fox (*Urocyon cinereoargenteus*) and raccoon (*Procyon lotor*). Mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) are expected to occur on the property but forage value is limited due to the abundance of unpalatable exotic vegetation.

Raptors such as American kestrel (*Falco sparverius*), redtail hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), upland game birds such as ring neck pheasant (*Phasianus colchicus*) and a great variety of passerine migrants are expected to make use of the property.

Wildlife Movement Corridors and Special Habitat Features

Significant habitat features on or near the property include Fulton Ditch, which provides seasonal water and habitat connectivity to surrounding lands, trees, shrubs and tall grasses associated with the Fulton Ditch that provide vertical structure, thermal cover, escape and nesting habitat and friable soils, which when left uncultivated, provide habitat for an array of borrowing animals and associated predatory species. Abandoned prairie dog burrows are being utilized by a variety of small and medium-sized mammals. Numerous large cottonwood trees were observed on adjoining lands; cottonwoods can accommodate cavity-nesting birds and provide perching habitat for raptors as well as a variety of other birds. Stick nests were not observed on adjoining properties. A review of the National Wetland Inventory map indicated that Fulton Ditch is mapped as a riverine wetland as previously discussed.

Federally listed Endangered or Threatened Species and State Species of Special Concern

The Information, Planning, and Consultation System (IPAC) (https://ecos.fws.gov/ipac/) was accessed to identify species that are threatened, endangered, candidates or proposed for listing and are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service and federally listed threatened and endangered species expected to be on or near the project area. Also identified are species that could be directly or indirectly affected by the activities at the project area.

Species identified by IPAC (exclusive of species that only need to be considered for water-related activities) include: Preble's meadow jumping mouse (*Zapus hundsonius preblei*), Colorado butterfly plant (*Guara neomexicana var. coloradoensis*) and Ute ladies'-tresses orchid (*Spiranthes diluvialis*). The property has potential habitat (areas of trees and shrubs in riparian areas) for Preble's meadow jumping mouse along Fulton Ditch. The property also has potential habitat (wetlands and floodplains) for Ute lady's tresses orchid and Colorado butterfly plant along Fulton Ditch.

Birds protected under the Migratory Bird Treaty Act and the Golden Eagle Protection Act with potential to utilize the property includes the bald eagle (*Haliaeetus leucocephalus*) and lesser yellowlegs (*Tringa flavipes*). Habitat value for bald eagles and lesser yellowlegs is likely to be low. No raptors or stick nests were observed on or near the property.

Habitat for burrowing owl (*Athene cunicularia*), a Colorado State Threatened species, does exist because there is an abandoned prairie dog town. This owl uses burrows for nesting and raising young.

Mitigation Measures

Blue Mountain Environmental Consulting recommends the following mitigation:

- Comply with Section 404 of the Clean Water Act by obtaining Army Corps of Engineer permits if wetlands are to be disturbed by site activities.
- Retain a minimum 50-foot buffer between wetlands associated with Fulton Ditch and developments so that Fulton Ditch may continue to be utilized as a wildlife movement corridor.
- Undertake 'formal consultation' with the U.S. Fish and Wildlife Service to ensure that the project remains in compliance with the Endangered Species Act.
- Under the Migratory Bird Treaty Act of 1918, it is unlawful for anyone to take, possess, import, export, transport, sell, purchase, barter or offer for sale, purchase or barter, any migratory bird or the parts, nests or eggs. Avoid removing trees between March 15 and August 15. Surveys for ground nesting birds should be conducted for site activities that

occur within this timeframe.

- Cultivate the fallow field to destroy and all abandoned prairie dog burrows before March 15th so that burrowing owls cannot utilize burrows for nesting. Otherwise, a borrowing owl survey per Colorado Parks and Wildlife guidelines would need to be conducted for site disturbance that occur between March 15th and October 31st.
- Utilize native, xeric warm- and cool-season grasses and forbs to revegetate any disturbed soils and improve pollinator habitat.
- Incorporate deciduous and coniferous tree species into the final site plan where possible to provide thermal cover and vertical structure for wildlife; group trees where possible.
- Utilize semi permeable materials for hardened surfaces to reduce runoff and promote groundwater infiltration.

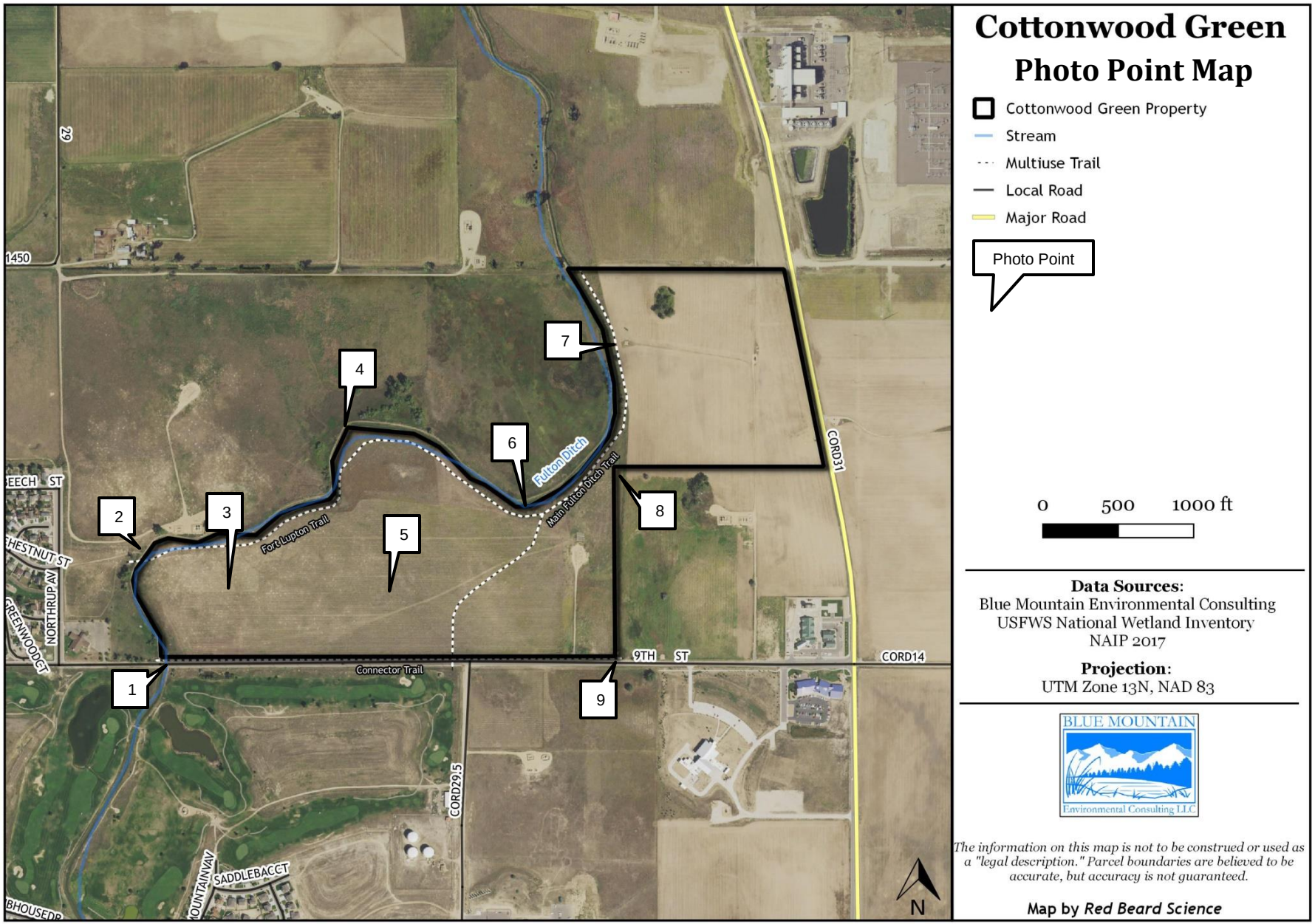
References

Natural Diversity Information Source (NDIS). 2010. Accessed on July 15, 2010. http://ndis.nrel.colostate.edu/wildlife.asp (Site no longer available)

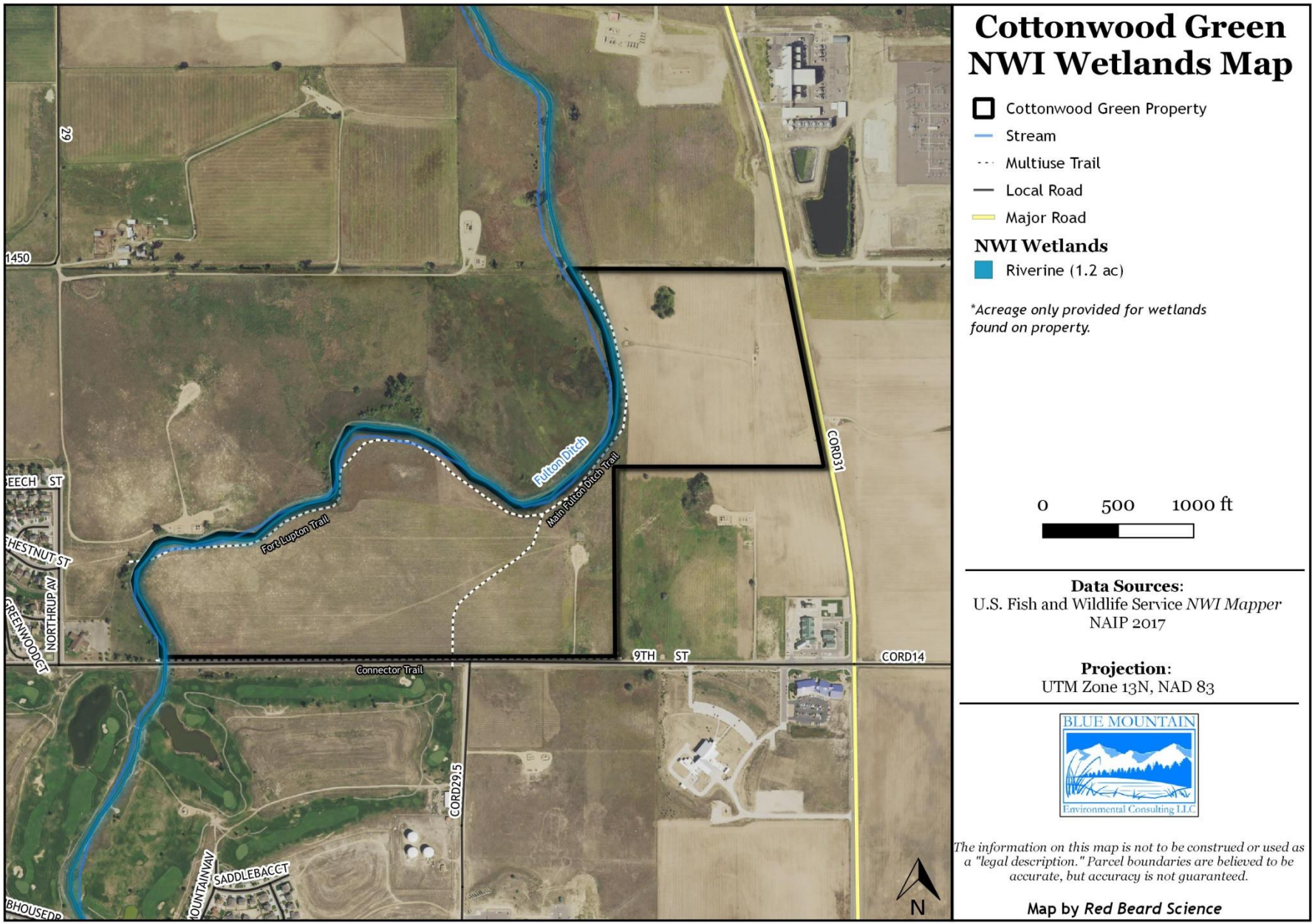
National Wetland Inventory Mapper. Accessed on November 28, 2018, http://www.fws.gov/wetlands/Data/Mapper.html.

Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf).

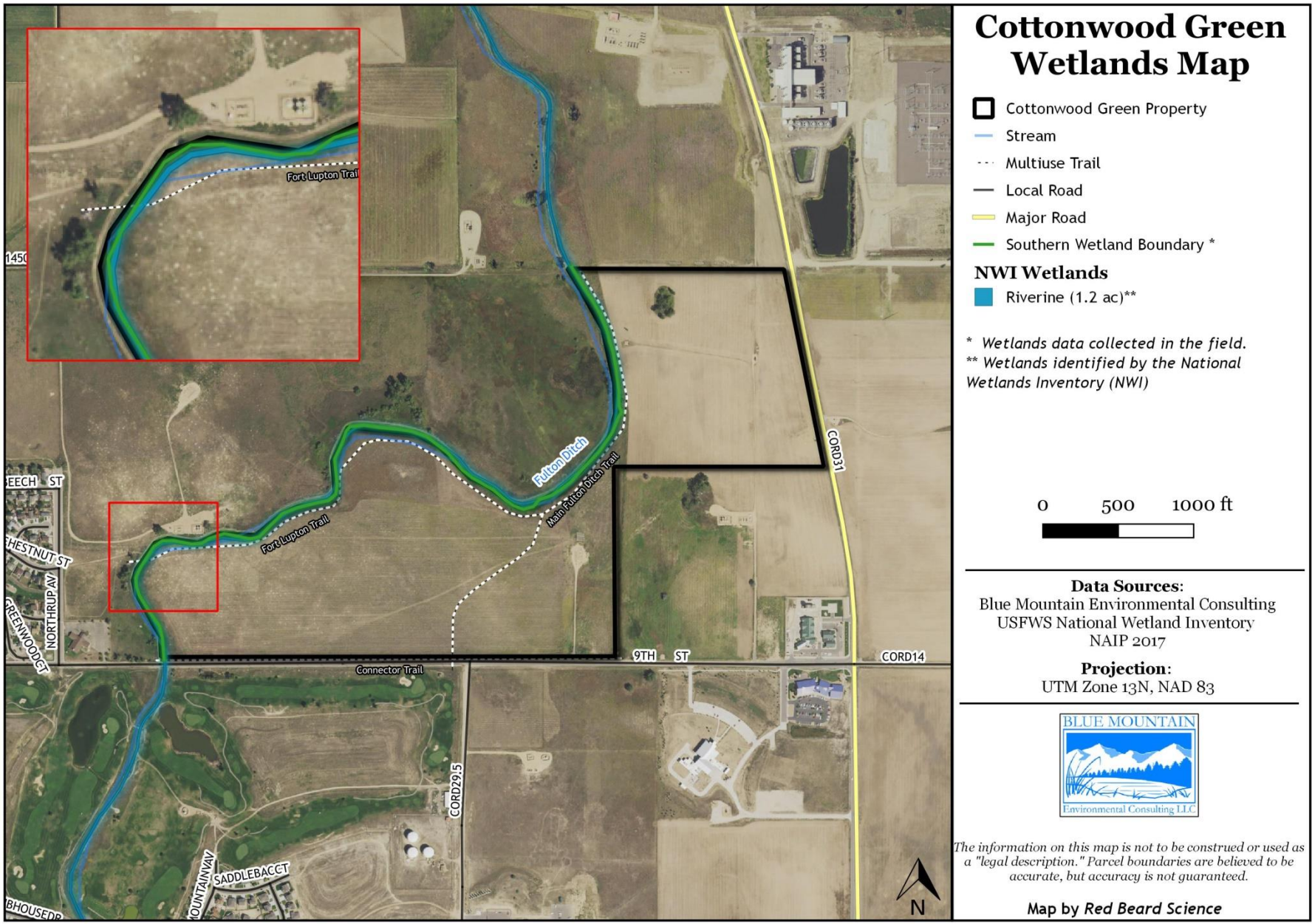
Appendix A: Project Maps


Cottonwood Green
Photo Point Map
Cottonwood Green Property
Stream
Multiuse Trail
Local Road
Major Road
Photo Point
0 500 1000 ft
Data Sources:
Blue Mountain Environmental Consulting
USFWS National Wetland Inventory
NAIP 2017
Projection:
UTM Zone 13N, NAD 83
BLUE MOUNTAIN
Environmental Consulting LLC
The information on this map is not to be construed or used as a "legal description." Parcel boundaries are believed to be accurate, but accuracy is not guaranteed.
Map by Red Beard Science
1
2
3
4
5
6
7
8
9
Fulton Ditch
Main Fulton Ditch Trail
Fort Lupton Trail
Connector Trail
CORD31
CORD14
CORD29.5
9TH ST
CHESTNUT ST
NORTHRUP AV
GREENWOOD CT
SADDLEBACK CT
1450
N

National Wetland Inventory Map



Wetlands Map



Appendix B: Site Photos

Map Number:	
1	
Photo Direction:	
North	
Looking north along Fulton Ditch from the southwest property corner.	

Map Number:	
1	
Photo Direction:	
NE	
Looking northeast.	

Map Number:	
1	
Photo Direction:	
East	
Looking east along 9th Street.	

Map Number:	
2	
Photo Direction:	
East	
Looking east from along Fulton Ditch; note oil and gas infrastructure on the adjoining property.	

Map Number:	
3	
Photo Direction:	
SE	

Looking southeast into the fallow field.

Map Number:	
2	
Photo Direction:	
South	

Looking south along Fulton Ditch; note the cottonwood trees on adjoining property.

Map Number:	
3	
Photo Direction:	
North	

Looking north from within the abandoned prairie dog town; note the absence of recent soil disturbance.

Map Number:	
4	
Photo Direction:	
East	

Looking east along the Fulton Ditch; note the transition from wetland vegetation to upland vegetation (red line).

Map Number:	
4	
Photo Direction:	
South	
Looking south into the fallow field and abandoned prairie dog town.	

Map Number:	
4	
Photo Direction:	
West	
Looking west.	

Map Number:	
5	
Photo Direction:	
North	

Looking north from within the fallow field and abandoned prairie dog town.

Map Number:	
5	
Photo Direction:	
East	

Looking east.

Map Number:	
5	
Photo Direction:	
South	
Looking south.	

Map Number:	
5	
Photo Direction:	
West	
Looking west.	

Map Number:	
6	
Photo Direction:	
East	

Looking east from along Fulton Ditch; note the transition from wetland to upland vegetation (red line).

Map Number:	
6	
Photo Direction:	
South	

Looking south.

Map Number:	
6	
Photo Direction:	
West	
Looking west.	

Map Number:	
7	
Photo Direction:	
East	
Looking east towards CR 31 across the winter wheat field; note oil and gas infrastructure.	

Map Number:	
7	
Photo Direction:	
South	
Looking south along the border between the winter wheat field and Fulton Ditch (at right).	

Map Number:	
8	
Photo Direction:	
North	
Looking north towards trees near point 7.	

Map Number:	
8	
Photo Direction:	
NE	

Looking northeast towards the northeastern property corner and CR 31.

Map Number:	
8	
Photo Direction:	
East	

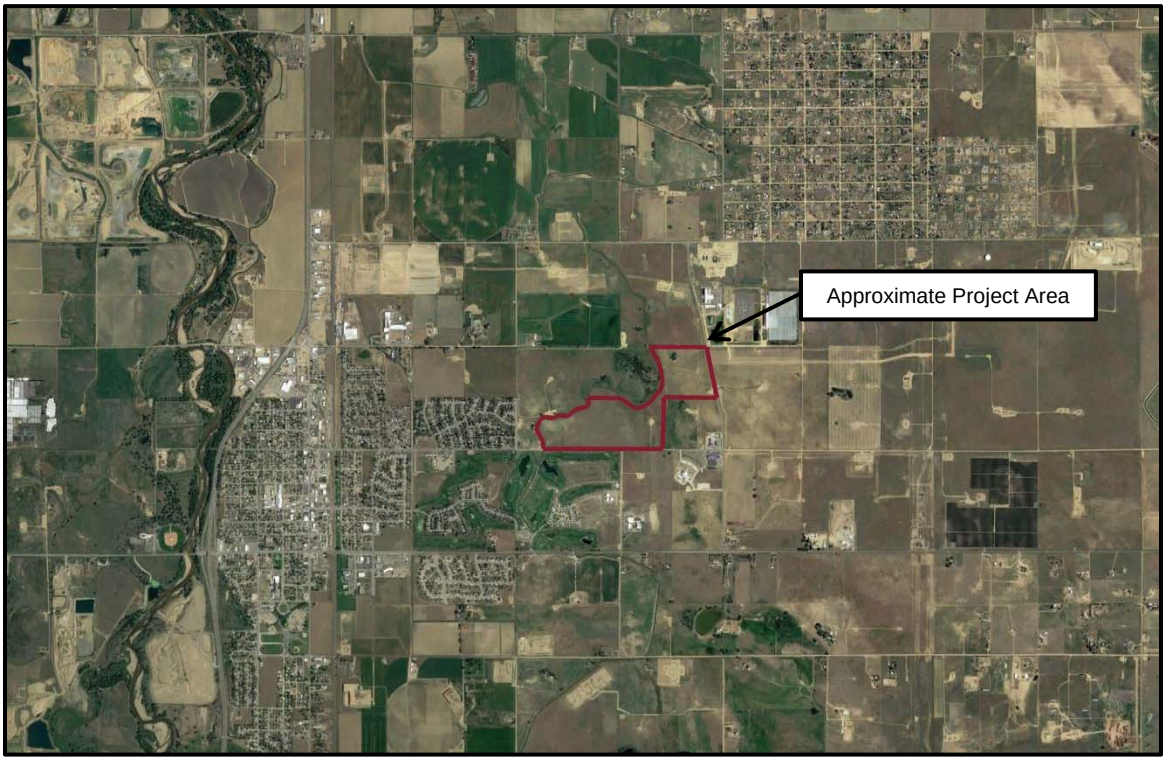
Looking east.

Map Number:	
9	
Photo Direction:	
North	
Looking north from a property corner along 9th street; note the stock tank and perimeter fence.	

Map Number:	
9	
Photo Direction:	
West	
Looking west along 9th Street.	

GROUND
ENGINEERING

Preliminary Geotechnical Evaluation
Cottonwood Greens
Fort Lupton, Colorado



Prepared For:

Arbor Capital Partners, LLC

In care of

Land Asset Strategies of Colorado, LLC

4040 MacArthur Drive, Suite 250
Newport Beach, California 92660

Attention: Mr. Lee Lowrey

Job Number 18-3062 **November 15, 2018**

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Legend and Notes ..... Figure 4

Summary of Laboratory Test Results ..... Table 1

Summary of Soil Corrosion Test Results ..... Table 2

PURPOSE AND SCOPE OF STUDY

This report presents the results of a preliminary geotechnical evaluation performed by GROUND Engineering Consultants, Inc. (GROUND) to provide in support of planning of the proposed Cottonwood Greens development to be located north of 9th Street and County Road 20 1/2 Fort Lupton, Colorado. Our study was conducted in general accordance with GROUND's Proposal No. 1810-1800, dated October 8, 2018 and associated contract documents.

Field and office studies provided information obtained at the test hole locations regarding surface and subsurface conditions, including the existing site vicinity improvements. Material samples retrieved during the subsurface exploration were tested in our laboratory to assess the engineering characteristics of the site earth materials, and assist in our geotechnical analysis. Results of the field, office, and laboratory studies are presented below.

This report has been prepared to summarize the data obtained and to present our preliminary findings and conclusions based on the proposed development and the subsurface conditions encountered.

The information presented in this report is preliminary, and is not sufficient for final design of buildings or pavements or for assessing depths of remedial earthwork, etc. Additional structure-specific subsurface exploration and testing should be performed in support of development of geotechnical parameters for project design.

PLANNED DEVELOPMENT

We understand that nature of the development has not yet been determined, and that commercial, residential, and mixed-use developments are being considered for the property. Supporting infrastructure, including roadways and underground utilities, likely will be constructed as well. We anticipate that structural loads likely will be low to moderate, typical of this type of development. Additionally, we anticipate that relatively small to moderate cuts and fills, on the order of 5 to 10 feet, may be required to achieve final lines and grades across the site.

If the proposed development differs significantly from that described above, GROUND should be notified to re-evaluate the conclusions and parameters contained herein.

SITE CONDITIONS



At the time of our subsurface exploration program, the site was a largely undeveloped lot that appeared to have been previously used for agriculture and scattered oil and gas production. The site was bordered Fulton Ditch to the west and north, County Road 31 to the east, undeveloped land to the east and south, and 9th Street to the south. Additional undeveloped and agricultural land, commercial development, and single-family residences further surrounded the site.



The project site was largely covered with native grasses, weeds, and other relatively small vegetation. Large, mature trees also were observed at various locations on the project site. The project site generally sloped gently to moderately to the north and west and displayed about 20 feet of relief across the project site.

INITIAL SUBSURFACE EXPLORATION

Subsurface exploration for the project was conducted in October and November of 2018. A total of 10 test holes were drilled using a conventional truck-mounted, drilling rig and a conventional track-mounted drilling rig advancing continuous flight auger equipment to depths of about 23 to 36 feet below existing grades with the limits of the proposed development. Test holes were advanced to their termination depths to evaluate the subsurface conditions as well as to retrieve samples for laboratory testing and analysis. A GROUND engineer directed the subsurface exploration, logged the test holes in the field, and prepared the samples for transport to our laboratory.

Samples of the subsurface materials were retrieved with a 2-inch I.D. California liner sampler. The samplers were driven into the substrata with blows from a 140-pound hammer falling 30 inches, a procedure similar to the Standard Penetration Test described by ASTM Method D1586. Penetration resistance values, when properly evaluated, indicate the relative density or consistency of soils. Depths at which the soil samples were obtained and associated penetration resistance values are shown on the test hole logs.

The approximate locations of the test holes are shown in Figure 1. Logs of the test holes are presented in Figures 2 and 3. Explanatory notes and a legend are provided in Figure 4.

LABORATORY TESTING

Samples retrieved from our test holes were examined and visually classified in the laboratory by the project engineer. Laboratory testing of soil samples included standard property tests, such as natural moisture contents, dry unit weights, grain size analyses, and Atterberg limits. Swell–consolidation, water soluble sulfate, and a suite of corrosivity tests were performed on select samples as well. Laboratory tests were performed in general accordance with applicable ASTM protocols. Results of the preliminary laboratory testing program are summarized in Table 1 and Table 2.

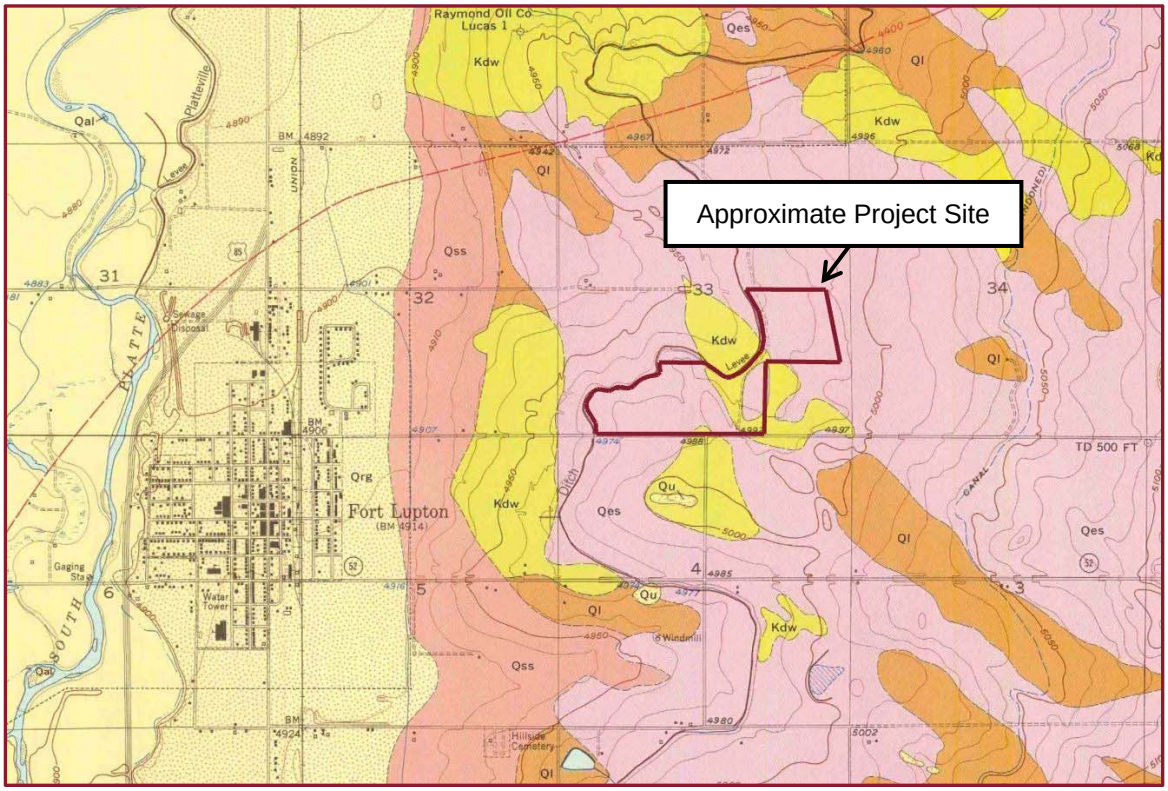
SUBSURFACE CONDITIONS

Site Geology Published geologic maps, e.g., Soister (1965),[1] depict the site as underlain by Holocene Eolian Sand (**Qes**) and by the Upper Cretaceous Dawson Formation (**Kdw**). Alluvial deposits are also mapped in the project area. A portion of the Soister (1965) map is reproduced below.

In the project area, eolian, wind-blown, deposits typically consists of fine to medium sands and silts with varying fractions of clays. Weathering typically increase the clay content of these deposits. Eolian deposits, such as loess, can be susceptible to hydro-consolidation ('collaspe') when loaded and wetted.

[1] Soister, P.E., 1965, *Geologic map of the Fort Lupton quadrangle, Weld and Adams Counties, Colorado*: U.S. Geological Survey, Geologic Quadrangle Map GQ-397, scale 1:24,000

Alluvial deposits, in the project area, generally consist of fine to coarse sands and gravels with varying fractions of silts and clays. Cobble and boulders are present locally as well.



The Dawson Formations, in the project area, typically consists of claystones, sandstones, and siltstone interbedded on various scales. The claystones typically are moderately to highly expansive and the formations include well-cemented beds that can be very hard and can be difficult to excavate.

Local Conditions In general, the test holes penetrated a thin layer of topsoil,[2] typically about 2 to 3 inches in thickness, before penetrating native sands and clays that extended to a depth of 4 to 11 feet below existing grades in the western portion of the site and 14 to 32 feet in the eastern portion of the site. Topsoil, generally was not encountered in the eastern portion of the site. Weathered claystone bedrock was encountered underlying the native sands and clays and extended to depths of 9 to 15 feet in the western portion of the site and 12 to 33 feet in the eastern portion fo the site.

[2] "Topsoil" as used herein is defined geotechnically. The materials so described may or may not be suitable for landscaping or as a growth medium for such plantings as may be proposed for the project.

Relatively unweathered claystone bedrock was encountered beneath the weathered claystone and extended to the depths explored.

We interpret the native sands clays to be heavily weathered eolian deposits with local alluvial deposits. We interpret the underlying bedrock materials to be Dawson Formation materials.

Fill materials were not recognized in the test holes but could likely present elsewhere at the site. However, the delineation of the complete lateral and vertical extents of the fills at the site, and their composition, was beyond our present scope of services. If detailed fill soil compositions at the site are of significance, they should be evaluated using test pits.

Sands and Clays consisted of fine to coarse sands and clays with varying fractions of silts. They were slightly moist to wet, non- to highly plastic, and light brown to brown in color. Caliche and iron staining were encountered locally.

Weathered Claystone consisted of weathered claystone with local weathered siltstone and sandstone beds. They were very moist to wet, moderately to highly plastic, firm medium hard, and brown to gray in color. Iron staining and caliche were noted locally.

Claystone Bedrock consisted of claystone with local siltstone and sandstone beds. They were moist to wet, moderately to highly plastic, hard to very hard, and gray in color. Iron staining was noted locally.

Swell-Consolidation Testing of site materials indicated a consolidations of 3.8 percent and swells up to 4.1 upon wetting under surcharges equal to the approximate overburden loads.

Groundwater was encountered in the test holes at depths between 2½ feet to 7 feet in the eastern portion of the site (Test Holes 6, 7, 8, 9, and 10) at the time of drilling, and at a depth of 22 feet below existing grade in Test Hole 3 when measured approximately 1 day later. The test hole was backfilled in accordance with Code of Colorado Regulations (2 CCR 402-2). Groundwater levels can be expected to fluctuate, however, in response to annual and longer-term cycles of precipitation, irrigation, surface drainage, land use, and the development of transient, perched water conditions. At this site we anticipate that groundwater levels will tend to rise and fall with the Fulton Ditch stage. Additionally,

review of estimate of saturation of the lab samples did not indicate that the shallow site soils had been saturated recently in the western portion of the site.

GEOLOGIC HAZARDS

Expansive Soils Swelling clayey soils and bedrock change volume in response to changes in moisture content that can occur seasonally, or in response to changes in land use, including development. Expansion potentials vary with moisture contents, density, clay chemistry and mineralogy. The swell potential in any particular area can vary markedly both laterally and vertically due to the complex interbedding of the site soil and bedrock materials. Moisture changes also occur erratically, resulting in conditions that cannot always be predicted.

The shallow earth materials underlying the site generally consisted of sands and clays. The plasticity of the site soils ranged from slightly to highly plastic. A swell of approximately 4.1 percent was measured in a sample of site soils (See Table 1), and significant swells have been measured in similar soils and bedrock in the greater project area. Swelling soils beneath a building's foundation or other improvements can cause significant damage. Design-level geotechnical evaluations of individual building sites should include an assessment of the possible presence of swelling materials in the foundation soils, so that appropriate, remedial design and construction remediation methods can be implemented. Project planning should anticipate the use of mitigation efforts, such as remedial excavation and re-compaction of the expansive materials, for moderately swelling soils at relatively shallow depths.

Collapsible Soils Certain surficial deposits in the Colorado Front Range area, typically eolian (wind-blown) materials are known to be susceptible to local hydro-consolidation or "collapse." Hydro-consolidation consists of a significant volume loss due to re-structuring of the constituent grains of the soil to a more compact arrangement upon wetting.

The surficial soils at the project site are mapped as eolian deposits, and the native soils encountered in the test holes have been interpreted to be eolian deposits. Swell and consolidation testing performed on site materials yield consolidations up to 3.8 percent. These are significant consolidation potentials, and design level geotechnical evaluations of individual building sites should include an assessment of the possible presence of

collapsible materials in the foundation soils, so that appropriate remedial design and construction can be implemented, where necessary.

Radon In general, testing for the possible presence of radon gas prior to project development does not yield useful results regarding the potential accumulation of radon in completed structures. Radon accumulations typically are found in basements or other enclosed portions of buildings built in areas underlain at relatively shallow depths by granitic crystalline rock. The likelihood of encountering radon in concentrations exceeding applicable health standards on the subject site, underlain by relatively deep soils and sedimentary bedrock, is significantly lower.

Radon testing should be performed in each building on-site, after construction is completed. Proper ventilation usually is sufficient to mitigate potential radon accumulations. Building designs should accommodate such ventilation for all building areas.

Seismic Activity / Faulting Neither site reconnaissance nor review of available geologic maps indicated the trace of an active or potentially active fault traversing or immediately adjacent to the site. Therefore, the likelihood of surface fault rupture at the site is considered to be relatively low.

The closest extent of a documented active fault to the site is the Rocky Mountain Arsenal Fault, which is located approximately 14 miles to the southwest (Kirkham and Rogers, 1981[3]; Colorado Geological Survey, 2008[4]). This fault is approximately 15 miles in length, trends generally northwest/southeast and is considered to be a right-lateral, strike-slip fault. The most recent significant seismic movements associated with the fault occurred in the 1960's, generating earthquakes up to magnitude 5.5. Research performed by the U.S. Geological Survey concluded that a strong correlation existed between the seismic activity of this fault and pressure injection of liquid waste into a disposal well located at the nearby Rocky Mountain Arsenal. Pressure injection in the disposal well was discontinued in 1966 and only minor seismic activity along the fault has been recorded since. The risk of this fault giving rise to damaging, earthquake-

[3] Kirkham, R.M., and W. P. Rogers, 1981, *Earthquake Potential in Colorado, A Preliminary Evaluation*, Colorado Geological Survey, Bulletin 43.
[4] Colorado Geological Survey, 2008, *Preliminary Quaternary Fault and Fold Database, and Map Server*, http://geosurvey.state.co.us/Default.aspx?tabid=453.

induced ground motions at the site is considered to be relatively low given the low previously recorded seismic magnitudes.

We anticipate that the western portion of the site could qualify as a Seismic Site Class C site, in accordance with 2015 IBC based on extrapolation of available data to depth. However, more information will be required to determine the Seismic Site Class, and that information may indicate that the site should classify as Seismic Site Class D. Similarly the eastern portion of the site will likely classify as Site Class D, but may classify as Site Class C once more information has been gathered. Compared with other regions of Colorado, recorded earthquake frequency in the project area is moderate.

Slope Stability and Erosion Colton and others (1975)[5], as well as larger scale geologic maps providing coverage of the site that were reviewed for this study, did not depict landslide deposits on or adjacent to the subject site.

The site is relatively gently to moderately sloping. During our preliminary reconnaissance of site area, no evidence was noted of mass-wasting processes associated with steep slopes, such as landslides, slumps, or unusual soil creep. Therefore, the likelihood of project developments being affected by existing large scale, unanticipated slope instabilities is considered low. Where significant cuts and fills are planned for the site the risk of slope instability may be increased, especially along the southern portion of the site. Therefore, constructed or modified slopes should be analyzed for stability, as appropriated.

Flooding The subject property abuts the Fulton Ditch to the north, but we assume that flow in that ditch will continue to be controlled. The nearest significant stream appears to be the South Platte River, approximately 1½ miles to the west of the site. Additionally, the subject parcel is mapped as Zone X by FEMA (2017),[6] which indicates a minimal risk of flooding. Significant fluctuation in the flow of streams can be expected during seasonal run periods and after large precipitation events.

The site and any proposed grade changes should be evaluated by a civil engineer with regard to flooding, however.

---

[5] Colton, R.B., J.A. Holligan, and L.W. Anderson, 1975, *Preliminary Map of Landslide Deposits, Denver 1° x 2° Quadrangle, Colorado*, U.S. Geological Survey, Miscellaneous Field Studies Map MF-705.

[6] Federal Emergency Management Administration, 2017, http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30 accessed on 11/01/2018.

Mining Activity and Subsidence Review of U.S. Geological Survey geologic maps covering the site Roberts, Hynes, and Woodward (2001)[7] and Turney and Murray-Williams (1983)[8] and other available, published maps depicting areas of coal extraction, did not indicate past mining activities near the subject parcel. Additionally, no mine shafts, adits, or other structures are depicted as being on the subject parcel, and were not observed on the subject site.

Considering the information above, the risk of surface subsidence associated with consolidation of former mine workings appears low. Further evaluation of former mine workings could be performed to evaluate this risk further and associated magnitudes of potential subsidence.

Published geologic maps do not indicate formations underlying the site at shallow depths that include evaporite (salt, gypsum, etc.) deposits, limestones, or other materials vulnerable to subsurface dissolution. Therefore, the likelihood of subsidence (associated with such rock formation; not coal mine related) or other hazards related to subsurface dissolution also appears to be low.

PRELIMINARY GEOTECHNICAL EVALUATION

Presented below are preliminary considerations and parameters regarding geotechnical aspects of the proposed development, which we have assumed will be relatively lightly loaded structures. The provided considerations and parameters are intended only to assist with preliminary project planning. Additional, structure-specific studies must be performed to develop design-level geotechnical considerations and parameters.

Geotechnical Risk The subsurface materials types encountered in the test holes are known to be susceptible to significant volume change in the project area. Additionally a swell of 4.1 percent and a consolidation of 3.8 percent were measured in the tested samples of site soils. Therefore, project planning should anticipate that mitigation measures for these conditions will be necessary. These conditions likely can be

[7] Roberts, S.B., Hynes, J.L., and Woodward, C.L., 2001, *Maps Showing the Extent of Mining, Locations of Mine Shafts, Adits, Air Shafts, Bedrock Faults, and Thickness of Overburden Above Abandoned Coal Mines in the Boulder-Weld Coal Field, Boulder, Weld, and Adams Counties, Colorado.* U.S. Geological Survey, Geological Investigations Series Map I-2735.

[8] Turney, J.E., Murray-Williams L., 1983, *Colorado Front Range Inactive Coal Mine Data and Subsidence, Adams County*, Colorado Geological Survey, Plate 12 of 12.

addressed by remedial earthwork unless movement tolerances of less than 1 inch are anticipated.

Relatively shallow groundwater was encountered in the eastern portion of the site and may complicated construction in that portion of the site, if remedial excavations are required or if below grade levels are added. Depending on the nature of the improvements, it may be beneficial to raise grades in portions of site.

Additional geotechnical evaluation should be performed the potential risks of swelling soils, collapsible soils, and shallow groundwater. Potential measures to address these risks are presented below, and GROUND is available to discuss these and other geotechnical considerations upon request.

Anticipated Foundation and Floor Systems In our opinion, it appears that shallow foundations and slab-on-grade floors will generally be appropriate for site construction provided they bear on a section of properly compacted fill soils. Where structures are more sensitive to movement and where post-construction movements less than 1 inch are desired, deep foundation systems and structural floor system will likely be required.

Deep Foundation Systems Deep foundation systems will need to bear in the bedrock underlying the site. We anticipate that both drilled pier and driven pile foundations will be geotechnically feasible. Drilled pier and driven pile lengths will depend on a variety of geotechnical and structural factors. We anticipate that pier lengths likely will be between 32 and 40 feet in the western portion of the site and 25 and 42 feet in the eastern portion of the site. Driven pile lengths, we anticipate, will be on the order of 15 to 25 feet in the western portion of the site and 20 to 38 feet below existing grade. Allowable end bearing pressures typically will be 30,000 psf or higher in bedrock. Estimated post-construction movements of a properly designed and installed deep foundation likely will be on the order of ½ inch or less.

Shallow Foundation Systems Where improvements are less sensitive to post-construction movement, we anticipate that shallow foundations bearing on a properly compacted, remedial fill section will be geotechnically feasible. Based on the information available and our experience in the project area, the remedial fill section may need to extend to a depth of 8 to 15 feet below existing grade. Due to the presence of shallow groundwater, the fill section likely can be reduced in the eastern portion of the

site. Allowable bearing pressures likely will range from 2,000 to 3,000 psf for properly compacted fill with anticipated post-construction movements of approximately 1 inch for a shallow foundation system bearing on a properly compacted fill section.

Structural Floors Where deep foundations are appropriate for a building, constructing the lowest level floor as a structural floor supported on deep foundations also will be appropriate, generally. Estimated post-construction movements of a properly designed and installed structural floor likely will be on the order of ½ inch or less. A structural floor should be constructed over a well-ventilated crawl space. Hanging the utilities beneath a building with a structural floor from that floor system (rather than installing them in the underlying soils) can limit differential structure / pipe movements on an expansive soil site.

Slab-on-grade Floors Similar to shallow foundation systems, conventional slab-on-grade concrete floors likely will need to bear on a section of properly compacted fill. Like shallow foundations, the remedial fill section may need to extend to a depth of 8 to 15 feet below existing grade. In our experience, estimates of post-construction floor movements bearing such soils will be on the order of 1 inch.

Flatwork It may be beneficial to support critical flatwork, such as flatwork at entrance and exits of buildings, on a fill section like that for a slab-on-grade floor to achieve similar performance. It may be beneficial to perform limited remedial earthwork beneath less critical flatwork fill, in order to reduce post-construction movements. Greater than typical flatwork maintenance, however, should be anticipated for this site.

Preliminary Water-Soluble Sulfates The concentrations of water-soluble sulfates measured in selected samples of site soils were 0.02 and 0.04 percent by weight (See Table 2). Such a concentration of soluble sulfates represents a **negligible** environment for sulfate attack on concrete exposed to these materials. Degrees of attack are based on the scale of 'negligible,' 'moderate,' 'severe' and 'very severe' as described in the "Design and Control of Concrete Mixtures," published by the Portland Cement Association (PCA). Based on these preliminary data, sulfate-resistant cement likely will not be necessary in project concrete. Additional testing for the presence of water-soluble sulfates should be performed as part of design-level geotechnical studies, however.

Preliminary Soil Corrosivity Data were obtained to support an initial assessment of the potential for corrosion of ferrous metals in contact with earth materials at the site, based on the conditions at the time of GROUND's evaluation. The test results are summarized in Table 2.

Reduction-Oxidation testing in selected samples indicated red-ox potentials of -130 and -95 millivolts. Such a low potential typically create a more corrosive environment.

Sulfide Reactivity testing indicated 'negative' and 'trace' results in the local soils. The presence of sulfides in the soils suggests a more corrosive environment.

Soil Resistivity In order to assess the "worst case" for mitigation planning, samples of materials retrieved from the test holes were tested for resistivity in the laboratory, after being saturated with water, rather than in the field. Resistivity also varies inversely with temperature. Therefore, the laboratory measurements were made at a controlled temperature. Measurement of electrical resistivity indicated values of approximately 2,054 and 3,122 ohm-centimeters in selected samples of site soils.

pH Where pH is less than 4.0, soil serves as an electrolyte; the pH range of about 6.5 to 7.5 indicates soil conditions that are optimum for sulfate reduction. In the pH range above 8.5, soils are generally high in dissolved salts, yielding a low soil resistivity.[9] Testing of a selected sample of site soils indicated pH values of about 8.2 and 8.7.

Preliminary Corrosivity Assessment Taken together, the above data suggest a severely corrosive site for ferrous metals. In our experience, however, the local clayey soils and claystones commonly represent a relatively severely corrosive environment. Additional, structure-specific corrosivity assessments should be performed for final design.

Surface and Subsurface Drainage Wetting of the bearing soils can lead to loss of support and greater than anticipated settlements on most sites. Project plans should include establishment and maintenance of effective drainage (both surface and subsurface). Raising grades and the use of granular fill soils (e.g., sands and gravels) appears to be beneficial in this regard.

Underdrains can be a beneficial part of the site drainage program, and given the shallow depths to groundwater, underdrains may be necessary to develop effective drainage

[9] American Water Works Association ANSI/AWWA C105/A21.5-05 Standard.

depending on final grades. Additionally, buildings with below-grade or partially below-grade levels should be provided with underdrains.

Preliminary Pavements Sections *The following initial or preliminary pavement sections are based on current grades and the shallow on-site soils. Final pavement design must be completed once final grades are established.*

Preliminary Pavement Thicknesses Pavement sections supported by the local soils likely will consist of 5 to 6 inches of asphalt (or an equivalent composite section) in parking areas and 5½ to 6½ inches of asphalt (or an equivalent composite section) in the driveways. Areas of heavy truck traffic such as trash collections zones, fire truck lanes, and shipping and receiving routes will likely require 6½ to 7½ inches of concrete pavement, placed over 6 inches of aggregate base course Other roads within the development may require thicker pavement sections, and can be better estimated once roadway classification and projected traffic are known.

Likely Remedial Earthwork Based on CDOT guidelines and the soil conditions encountered during this preliminary evaluation, the subgrade would need to be excavated to a depth of 2 to 3 feet or more (depending on plasticity index of soils / bedrock exposed near final surface grades), moisture-conditioned and replaced as properly re-compacted fill. Greater depths of subgrade preparation may be appropriate in some areas, however, due to the presence of collapsible and swelling native soils.

Subgrade preparation should extend the full width of the pavement from back-of-curb to back-of-curb. The subgrade for sidewalks and other project hardscaping also should be prepared in the same manner.

ADDITIONAL EXPLORATION REQUIREMENTS

The above data and conclusions are based on preliminary subsurface exploration only. Additional geotechnical studies should be performed to evaluate further the site for building-specific parameters and conclusions regarding foundation and floor system, final site grading, and pavement sections.

LIMITATIONS

This preliminary report has been prepared for Arbor Capital Partners, LLC as it pertains to planning of the proposed development of the subject site as described herein. It may not contain sufficient information for other parties or other purposes. If any information referred to herein is not well understood, then Arbor Capital Partners, LLC, or anyone using this report, should contact the author or a GROUND principal immediately. GROUND will be available to meet to discuss the risks and remedial approaches presented in this report, as well as other potential approaches, upon request.

The preliminary geotechnical conclusions in this report relied upon subsurface exploration at a limited number of exploration points, as shown in Figure 1, as well as the means and methods described herein. Subsurface conditions were interpolated between and extrapolated beyond these locations. It is not possible to guarantee the subsurface conditions are as indicated in this report. The conditions exposed during design-level evaluations may differ from those encountered during subsurface exploration for this study.

This report provides the findings of our preliminary geotechnical evaluation of the site. It does not include sufficient geotechnical information or parameters for final design of buildings or other improvements. Additional, structure-specific subsurface exploration and testing shall be performed to provide information for the project design.

This report was prepared in a manner consistent with that degree of care and skill ordinarily exercised by member of the same profession currently practicing under the same or similar circumstances. GROUND makes no warranties, either expressed or implied, as to the professional data, opinions, or conclusions contained herein.

Sincerely,

GROUND Engineering Consultants, Inc.

Ben Fellbaum, P.G.

Reviewed by Brian H. Reck, P.G., C.E.G., P.E.



GOOGLE EARTH AERIAL IMAGE (05/31/2018)

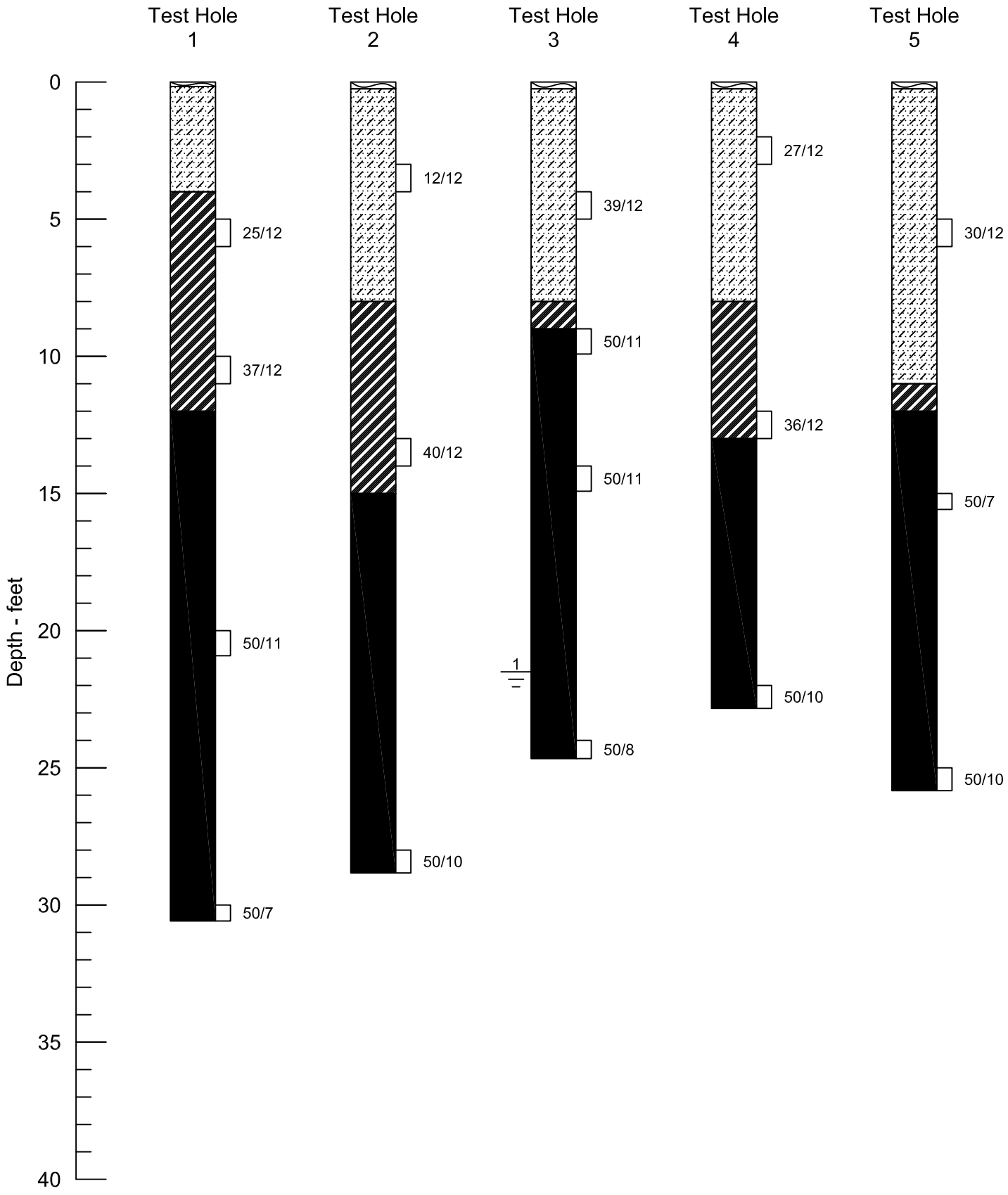
1
Indicates test hole number and approximate location.

(Not to Scale)

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LOCATION OF TEST HOLES

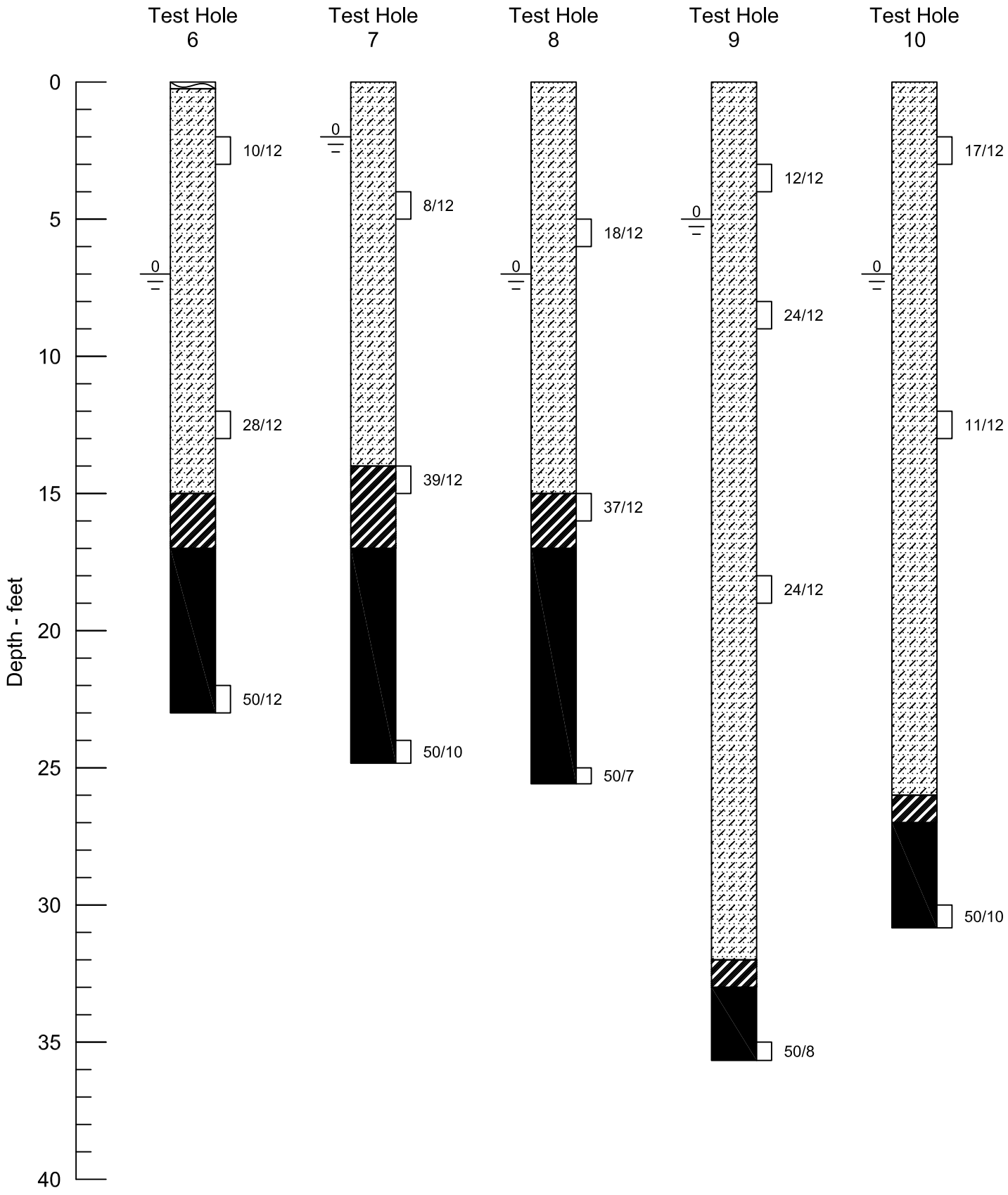
JOB NO.: 18-3062	FIGURE: 1
CADFILE NAME: 3062SITE.DWG	



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LOGS OF TEST HOLES

JOB NO.: 18-3062	FIGURE: 2
CADFILE NAME: 3062LOG01.DWG	



GROUND
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LOGS OF TEST HOLES

JOB NO.: 18-3062	FIGURE: 3
CADFILE NAME: 3062LOG02.DWG	

LEGEND:

Topsoil

Sands and Clays: Fine to coarse sands and clays with varying fractions of silts. They were slightly moist to wet, non- to highly plastic, and light brown to brown in color. Caliche and iron staining were encountered locally.

Weathered Claystone: Weathered claystone with local weathered siltstone and sandstone beds. They were very moist to wet, moderately to highly plastic, firm medium hard, and brown to gray in color. Iron staining and caliche were noted locally.

Claystone Bedrock: Claystone with local siltstone and sandstone beds. They were moist to wet, moderately to highly plastic, hard to very hard, and gray in color. Iron staining was noted locally.

Drive sample, 2-inch I.D. California liner sample

23/12 Drive sample blow count, indicates 23 blows of a 140-pound hammer falling 30 inches were required to drive the sampler 12 inches.

0 Depth to water level and number of days after drilling that measurement was taken.

NOTES:

1) Test holes were drilled on 10/23, 10/26, and 11/01/2018 with 4-inch diameter continuous flight augers.
2) Locations of the test holes were measured approximately by pacing from features shown on the site plan provided.
3) Elevations of the test holes were not measured and the logs of the test holes are drawn to depth.
4) The test hole locations and elevations should be considered accurate only to the degree implied by the method used.
5) The lines between materials shown on the test hole logs represent the approximate boundaries between material types and the transitions may be gradual.
6) Groundwater level readings shown on the logs were made at the time and under the conditions indicated. Fluctuations in the water level may occur with time.
7) The material descriptions on this legend are for general classification purposes only. See the full text of this report for descriptions of the site materials and related information.
8) All test holes were immediately backfilled upon completion of drilling, unless otherwise specified in this report.

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LEGEND AND NOTES

JOB NO.: 18-3062	FIGURE: 4
CADFILE NAME: 3062LEG.DWG	

Cottonwood Greens
Preliminary Evaluation

TABLE 1: SUMMARY OF LABORATORY TEST RESULTS

Sample Location		Natural	Natural	Gradation	Atterberg Limits		Swell/Consolidation		USCS	AASHTO	Sample Description
Test Hole No.	Depth (feet)	Moisture Content (%)	Dry Density (pcf)	Fines (%)	Liquid Limit	Plasticity Index	Volume Change (%)	Surcharge Pressure (psf)	Equivalent Classification	Equivalent Classification (Group Index)	
1	10	22.2	102.3	94.6	52	28	-	-	CH	A-7-6 (30)	Weathered CLAYSTONE
1	20	20.4	109	94.1	58	29	0.3	2500	CH	A-7-6 (32)	CLAYSTONE Bedrock
2	3	2.5	101.3	5.5	NV	NP	-3.8	400	SP-SM	A-2-4 (0)	SAND with Silt
3	4	7.4	108	59.9	24	6	-	-	s(CL-ML)	A-4 (1)	Sandy , Silty CLAY
3	24	16.8	113.8	95.9	59	35	0.1	3000	CH	A-7-6 (38)	CLAYSTONE Bedrock
4	12	24.2	92.4	97.7	75	44	4.1	500	CH	A-7-5 (52)	Weathered CLAYSTONE
5	5	16.7	114.6	64.7	37	16	-	-	s(CL)	A-6 (8)	Sandy CLAY
7	14	18.9	111.3	91	50	27	-	-	CH	A-7-6 (27)	Weathered CLAYSTONE
9	3	12.3	113.3	20.4	21	6	-	-	SC-SM	A-2-4 (0)	Silty, Clayey SAND
10	30	20.7	103.9	85.4	58	32	-	-	CH	A-7-6 (30)	CLAYSTONE Bedrock

*Negative indicates collapse, SD = Sample disturbed, NV = No value, NP = Non-plastic

Cottonwood Greens
Preliminary Evaluation

TABLE 2: SUMMARY OF SOIL CORROSION TEST RESULTS

Sample Location		Water Soluble Sulfates *(%)*	pH	Redox Potential *(mV)*	Sulfide Reactivity*	Resistivity *(ohm-cm)*	USCS Equivalent Classification	AASHTO Equivalent Classification (Group Index)	Sample Description
Test Hole No.	Depth *(feet)*								
1	10	0.02	8.7	-130	Negative	2,054	CH	A-7-6 (30)	Weathered CLAYSTONE
9	3	0.04	8.2	-95	Trace	3,122	SC-SM	A-2-4 (0)	Silty, Clayey SAND

CTL | THOMPSON INCORPORATED

PRELIMINARY GEOTECHNICAL INVESTIGATION
COTTONWOOD GREENS SUBDIVISION
ADDITIONAL 38-ACRE PARCEL
NORTHWEST OF 9TH STREET AND
COUNTY ROAD 31
FORT LUPTON, COLORADO

Prepared For:

ARBOR CAPITAL PARTNERS
c/o LAND ASSET STRATEGIES OF COLORADO, LLC
4040 MacArthur Boulevard, Suite 250
Newport Beach, California 92660

Attention: Don Guerra

Project No. DN50,350-115-R2

October 26, 2020

1971 West 12th Avenue | Denver, Colorado 80204 | Phone: 303-825-0777 | Fax: 303-825-4252

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SCOPE

This report presents the results of our Preliminary Geotechnical Investigation for an additional 38-acre parcel adjacent to the Cottonwood Greens Subdivision located northwest of 9th Street and County Road 31 in Fort Lupton, Colorado (Fig. 1). The purpose of our investigation was to evaluate the subsurface conditions to assist in due diligence and planning of site development and residential construction. The scope was described in a Contract Modification dated August 14, 2020 (DN 19-0637-CM1) .

This report is based on subsurface conditions found in exploratory borings, results of field and laboratory tests, engineering analysis of field and laboratory data, and our experience. The report contains descriptions of the soil, bedrock and groundwater found in the exploratory borings, site geology and geologic hazards, preliminary discussions of foundation and floor support alternatives, and preliminary design and construction criteria for site development, pavements, and surface and subsurface drainage. The discussions of foundation and floor system alternatives are intended for planning purposes only. Site-specific investigations will be necessary to design structures and improvements. A brief summary of our conclusions and recommendations follows, with more detailed discussion in the report.

SUMMARY OF CONCLUSIONS

1. We found no geologic hazards or geotechnical concerns which will preclude development of the site. The primary geotechnical concern is shallow groundwater.

2. Strata encountered in the borings consisted of 12 to 25 feet of sandy clay and slightly silty to clayey sand underlain in six borings by weathered and comparatively unweathered claystone bedrock. The clay and claystone are expansive and we judge the sand is non-expansive.

3. Groundwater was measured at depths of about 7 to 13.5 feet below existing grades, or approximate elevations 4969.5 to 4982 feet (Fig. 3). Groundwater will likely be encountered during deep utility installation. We recommend providing at least 3 feet, and preferably 5 feet of separation between groundwater and foundation excavations. Use of basement residences will likely be precluded for some areas of the site. Groundwater will fluctuate seasonally and may rise in response to irrigation, precipitation, land-use changes, and flow in Fulton Ditch.

4. We estimated total potential ground heave may range from less than 0.5 inch to about 2.5 inches considering a depth of wetting of 24 feet below existing grade. A majority of the heave estimates are less than 1 inch. Footing foundations and slab-on-grade basement floors will likely be suitable for a majority of the site.

5. Pavement subgrade will likely consist of primarily non-expansive sand. Sand is considered to have good to excellent pavement support characteristics. The Town of Fort Lupton requires full-depth asphalt pavement sections for all public streets. We anticipate a minimum section of 5 to 6 inches of asphalt for local streets and 7 inches for residential collectors. Thicker asphalt may be necessary where clayey sand or sandy clay subgrade is present. Subgrade investigations should be performed after site grading.

6. Control of surface and subsurface drainage will be critical to the performance of foundations, slabs-on-grade and pavements. Overall surface drainage should be designed to provide rapid run-off of surface water away from structures, pavements and flatwork.

SITE CONDITIONS

The 38-acre parcel is located northwest of 9th Street and County Road 31 in Fort Lupton, Colorado (Fig. 1 and Photo 1). The site is bordered by the proposed Cottonwood Greens Subdivision to the north and west, 9th Street to the south, and County Road 31 and a fire station to the east. The ground surface slopes gently to the north-northwest toward Fulton Ditch with overall relief of about 20 feet. Ground cover consists primarily of grasses, weeds, and crop remnants. Some scattered trees are also present. Multiple oil/gas wells are present in the northern portion. Review of historical aerial photos indicates the property has been used primarily as farmland.



Photo 1 – Google Earth© Aerial Site Photo, September 2019

PROPOSED DEVELOPMENT

Plans are not currently available, but we understand the parcel is being considered for residential development. We anticipate the development will include single-family and/or multi-family residences serviced by paved roadways and buried utilities. We assume the residences will consist of one or two-story, wood-framed structures with crawl spaces and/or basements. Cut and fill grading will likely be relatively minor (about 5 feet or less).

INVESTIGATION

We investigated subsurface conditions by drilling 9 widely-spaced exploratory borings at the locations shown on Fig. 1. The boring locations were established by a representative of our firm using a Leica GS18 GPS unit referencing the North American Datum of 1988 (NAVD88). We contacted the Utility Notification Center of Colora-

do and local sewer and water districts prior to drilling to clear drilling locations for conflicts with buried utilities. The borings were advanced to about 25 feet below the existing ground surface using 4-inch diameter, continuous-flight solid-stem auger and a truck-mounted CME-45 drill rig. Samples were obtained at 5 feet intervals using 2.5-inch diameter (O.D.) modified California barrel samplers driven by an automatic 140-pound hammer falling 30 inches. Our representative observed drilling, logged the strata encountered, and obtained samples. Summary logs of the exploratory borings are presented in Appendix A.

The samples were returned to our laboratory where they were examined by our engineer. Laboratory tests included dry density, moisture content, particles size analysis (gradation and percent passing the No. 200 sieve), Atterberg limits, swell-consolidation, and water-soluble sulfate concentration. Swell-consolidation tests were performed by wetting the samples under approximate overburden pressures (i.e. the pressure exerted by the overlying soil). Results of laboratory tests are presented in Appendix B.

SITE GEOLOGY AND GEOLOGIC HAZARDS

According to the Geologic Map of the Fort Lupton Quadrangle, Weld and Adams Counties (Soister, P.E.: Map GQ-397, 1965), the site is underlain by windblown deposits of clay, silt, and sand underlain by sedimentary bedrock of the lower portion of the Dawson formation. The soil includes expansive clay. The bedrock includes expansive claystone.

Site geology and geologic hazards were evaluated through review of geologic maps, field observations, conditions found in our exploratory borings, and our experience with similar projects. No geologic hazards were identified which would preclude development of this site. The hazards identified are:

- Shallow groundwater
- Expansive soil and bedrock, and
- Regional issues of seismicity and radioactivity.

These hazards can be mitigated with proper planning, engineering, design and construction.

Shallow Groundwater

Groundwater was measured at depths of about 10 feet or less below existing grades in a majority of the borings at the time of drilling. We recommend at least 3 feet, and preferably 5 feet of separation between foundation excavations and groundwater. Depending on site grading, shallow groundwater will likely preclude use of basement residences in some areas of the site. Where basements are within about 5 feet of groundwater, we advocate use of vapor retarders over a gravel layer below basement floor slabs. One alternative would be to plan non-basement residences in areas with shallow groundwater.

Shallow groundwater may also complicate site development such as utility installation. Contractors should be prepared to deal with wet soils, flat trench excavation slopes below groundwater, and temporary dewatering.

Expansive Soil and Bedrock

The clay and claystone bedrock encountered in our borings are expansive. There is risk that ground heave will damage pavements, slabs-on-grade and foundations. We judge the risk is relatively low since bedrock is comparatively deep across most of the site and is below groundwater. Engineered design of grading, pavements, foundations, slabs-on-grade, and surface drainage can mitigate, but not eliminate, the potential risk.

Seismicity

Based on available mapping, we found no active faults within or near the site. The soil and bedrock units are not expected to respond unusually to seismic activity. According to the International Residential Code (IRC) for seismic design, we believe the site classifies as Site Class D.

Radioactivity

It is normal in the Front Range of Colorado and nearby eastern plains to measure radon gas in poorly ventilated spaces in contact with soil or bedrock. Radon 222 gas is considered a health hazard and is just one of several radioactive products in the chain of the natural decay of uranium into lead. Radioactive nuclides are common in the soil and bedrock underlying the subject site. Because these sources exist or will exist on most sites in the area, there is a potential for radon gas accumulation in poorly ventilated spaces. The amount of soil gas that can accumulate is a function of many factors, including the radionuclide activity of the soil and bedrock, construction methods and materials, soil gas pathways, and accumulation areas. The only reliable method to determine if a hazard exists is to perform radon testing of completed structures to determine the level of radon gas accumulation. Typical mitigation methods consist of sealing soil gas entry areas and ventilation of below-grade spaces. We recommend provisions for ventilation of foundation drain systems if a radon problem is discovered.

Other Considerations

We observed no evidence of unstable slopes. Erosion potential on the site is considered low due to gentle slopes and existing vegetation. The potential will increase during construction but should return to pre-construction rates or less if proper grading practices, surface drainage design, and re-vegetation efforts are implement-

ed. We did not identify significant economically recoverable, high quality aggregate or rare earth materials in our borings.

SUBSURFACE CONDITIONS

Strata encountered in the borings consisted of 12 to 25 feet of sandy clay and slightly silty to clayey sand underlain in six borings by weathered and comparatively unweathered claystone bedrock. Pertinent engineering characteristics of the soil and bedrock are described in the following paragraphs.

Sand

At least 7 feet of sand was found from the ground surface in each boring. The sand was very loose to medium dense based on field penetration resistance test results. The looser consistencies generally coincided with the presence of groundwater. Eleven samples of slightly silty to silty sand contained 5 to 22 percent silt and clay-sized particles. Two samples of clayey sand contained 40 and 48 percent fines, with the former sample exhibiting low plasticity. We judge the sand is non-expansive.

Clay

About 3 to 10 feet of sandy, silty clay was encountered beneath the sand in four borings. The clay was very stiff. Moisture contents of samples tested ranged from 19.3 to 21.8 percent, with dry densities of 106 to 111 pounds per cubic foot (pcf). One sample did not swell and one sample swelled 0.6 percent when wetted. One sample contained 72 percent silt and clay-sized particles and exhibited moderate plasticity.

Bedrock

Weathered and comparatively unweathered claystone was encountered in six borings at depths of about 12 to 24 feet, or approximate elevations 4959 to 4975 feet (Fig. 2). Weathered zones were present in five borings and ranged in thickness from about 1 to 10 feet. The comparatively unweathered bedrock was medium hard to hard. Five claystone samples swelled 0.7 to 2.7 percent when wetted. A different claystone sample contained 85 percent silt and clay-sized particles and exhibited high plasticity.

Groundwater

Groundwater was encountered during drilling in each boring at depths of about 7 to 13.5 feet, or approximate elevations 4969.5 to 4982 feet (Fig. 3). When checked five days after drilling on September 23, 2020, the holes had been destroyed and a delayed groundwater measurement could not be obtained. Groundwater will likely be encountered during deep utility installation. We recommend providing at least 3 feet, and preferably 5 feet of separation between groundwater and foundation excavations. Use of basement residences will likely be precluded in some areas of the site. Groundwater will fluctuate seasonally and may rise in response to irrigation, precipitation, land-use changes, and flow in Fulton Ditch.

ESTIMATED POTENTIAL HEAVE

Based on the subsurface profiles, swell-consolidation test results and our experience, we estimated the potential heave at existing grade for each test hole as shown in the table below. A depth of wetting of 24 feet below existing grades was considered for the analysis. The estimates are conservative (high) because they assume full wetting and potential heave of material below groundwater. Due to widely spaced borings, variations from our estimates should be anticipated. It is not certain these movements will occur.

TABLE I
ESTIMATED POTENTIAL GROUND HEAVE
BASED ON 24-FEET DEPTH OF WETTING

Boring No.	Estimated Potential Heave at Existing Grade (inches)
TH-1	1.1
TH-2	<0.5
TH-3	<0.5
TH-4	0.5
TH-5	0.7
TH-6	1.8
TH-7	<0.5
TH-8	2.5
TH-9	<0.5

SITE DEVELOPMENT

The primary geotechnical concerns that we believe will influence development and building construction on this site are shallow groundwater and expansive soil and bedrock. These concerns can be mitigated with proper planning, engineering, design and construction. We believe there are no geologic or geotechnical constraints at this site that would preclude development. The following sections discuss site development recommendations.

Excavation

We believe the soil and bedrock penetrated by our exploratory borings can be excavated with typical heavy-duty equipment. Contractors should be familiar with applicable local, state and federal safety regulations, including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards. Based on our investigation and OSHA standards, we anticipate the sandy clay and bedrock may classify as Type B soil and the sand as Type C. Type B and

Type C soils require maximum slope inclinations of 1H:1V (horizontal to vertical) and 1.5H:1V for excavations in dry conditions, respectively. Flatter slopes will be necessary below groundwater. Contractors are required to identify the soils encountered in excavations and refer to OSHA standards to determine appropriate slopes. Excavations deeper than 20 feet should be designed by a professional engineer.

Dewatering

Groundwater may be encountered in utility excavations; temporary construction dewatering systems will probably be needed to properly install deep utilities for some areas of the site. We believe that dewatering for excavations which penetrate less than 3 to 5 feet below the groundwater surface may be accomplished using conventional sump and pump methods in utility trenches. Deeper excavations may require more elaborate dewatering (such as well points).

The Town of Fort Lupton and/or the Colorado Department of Public Health may require dewatering permits. Our experience indicates periodic environmental testing is usually required with these permits, with reporting. Permitting requirements may also influence the construction schedule.

Site Grading

The on-site soils free of vegetation are suitable for use as site grading fill. Fill should be placed in thin loose lifts (8-inches or less), and be moisture-conditioned and compacted prior to placement of the next lift. Clay fill should be moisture-conditioned between optimum and 3 percent above optimum moisture content and compacted to at least 95 percent of maximum standard Proctor dry density (ASTM D 698). Sand fill should be moisture-conditioned within 2 percent of optimum moisture content and compacted similarly. A representative of our firm should observe and test compaction of the fill during placement. Guidelines for site grading are presented in Appendix C.

Slopes

We recommend permanent cut and fill slopes be designed with a maximum slope of 3:1 (horizontal to vertical). Use of 4:1 slopes would be better to control erosion. If site constraints (property boundaries and streets) do not permit construction with recommended slopes, we should be contacted to evaluate the subsurface soils and steeper slopes.

Utilities

Water and sewer lines are usually constructed beneath paved roads. Compaction of trench backfill can have a significant effect on the life and serviceability of pavements. Trench backfill should be placed in thin, loose lifts (8 inches or less) and be moisture-conditioned and compacted as described in Site Grading. The placement and compaction of trench backfill should be observed and tested by a representative of our firm during construction.

Underdrain

With long-term development and subsequent irrigation, groundwater could rise. The water could lead to frequent pumping of foundation drains. Where basements are planned, we advocate use of underdrains incorporated into the design of sanitary sewer systems to provide a means to control water and allow gravity discharge from foundation drains. It may not be practical to use underdrains at this site if a gravity outlet is not available. Conceptual sewer underdrain details are provided on Figs. 4 through 6. If the underdrains discharge to a detention pond or drainage, the potential for backflow of water from the discharge point into the underdrain and building foundation drains should be evaluated.

Pavements

Pavement subgrade soils will likely consist of primarily non-expansive sand. Sand has good to excellent pavement support characteristics. The Town of Fort Lupton requires full-depth asphalt pavement sections for all public streets. We anticipate a minimum section of 5 to 6 inches of asphalt for local streets and 7 inches of asphalt for residential collectors. Thicker asphalt may be necessary where clayey sand or sandy clay subgrade is present. Subgrade investigation and pavement designs should be performed after grading is complete.

BUILDING CONSTRUCTION CONSIDERATIONS

The following discussions are preliminary and not intended for design or construction. After grading is completed, design-level investigations should be performed on a building-specific basis.

Foundations

Our investigation indicates predominately non-expansive sand is present at depths likely to influence performance of shallow foundations and slabs-on-grade. Expansive claystone bedrock is present, but is comparatively deep and below groundwater. Footing foundations appear suitable for a majority of the site. Post-tensioned slab-on-grade foundations may also be considered where basements are not planned. Design-level investigations will be necessary to design foundations.

Slab-On-Grade Construction

Structurally supported floors should be anticipated in all non-basement finished living space in residences unless post-tensioned slab-on-grade foundations are used. Slab-on-grade basement floors may be considered on low risk sites where

potential heave is acceptable to builders and home buyers. Based on the widely-spaced borings, low risk conditions appear to be present for a majority of the site.

The following precautions will be required to reduce the potential for damage due to movement of conventional slab-on-grade floors:

1. Isolation of the slabs from foundation walls, columns or other slab penetrations using a slip-joint;

2. Voiding of interior partition walls at the top or bottom to allow slab movement to occur without transferring movement to the structure; and

3. Flexible water and gas connections to allow for slab movement. A flexible plenum above slab-supported furnaces will be required.

Below-Grade Areas

Surface water can penetrate relatively permeable loose backfill soils located adjacent to structures and collect at the bottom of relatively impermeable excavations causing wet or moist conditions. Foundation drains will be necessary around basements. If basements are not used, drains should be planned around crawl spaces (if used). Foundation drains are not typically provided for post-tensioned slab-on-grade foundations. Foundation drains should ideally be connected to an underdrain system to provide a gravity outlet. The drains can be connected to a sump pit where water is removed by pumping if an underdrain is not provided. Below grade walls should be designed for lateral earth pressures where backfill is not present to the same extent on the inside and outside of the walls.

Surface Drainage

The performance of improvements will be influenced by surface drainage. When developing an overall drainage scheme, consideration should be given to drainage around each building. The ground surface around buildings should be

sloped to provide positive drainage away from the foundations. We typically recommend a slope of at least 10 percent for the first 10 feet surrounding residences with basements, where practical, and slopes of at least 5 percent around structures without basements. Where possible, drainage swales should slope at least 2 percent. Roof downspouts and other water collection systems should discharge well beyond the limits of backfill around structures.

Proper control of surface runoff is also important to control the erosion of surface soils. Concentrated sheet flow should not be directed over unprotected slopes. Water should not be allowed to pond at the crest of slopes. Permanent slopes should be prepared to reduce erosion.

Attention should be paid to compact the soils behind curb and gutter adjacent to streets and in utility trenches during development. If surface drainage between preliminary development and construction phases is neglected, performance of the roadways, flatwork and foundations may be poor.

Concrete

Concrete in contact with soil can be subject to sulfate attack. We measured a water-soluble sulfate concentration of 0.02 percent in one sample from this site. For this level of sulfate concentration, ACI 332-08 *Code Requirements for Residential Concrete* indicates there are no special requirements for sulfate resistance. We recommend additional testing during design-level investigations.

Superficial damage may occur to the exposed surfaces of highly permeable concrete, even though sulfate levels are relatively low. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious materials ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to surface drainage or shallow groundwater. Concrete should have a total air content of 6 percent ± 1.5 percent.

RECOMMENDED FUTURE INVESTIGATIONS

We recommend the following investigations and services:

1. Review of site and grading plans once available;
2. Construction testing and observation during site development, including compaction testing of grading fill, utility trench backfill, and pavements;
3. Subgrade investigation and pavement designs after grading;
4. Design-level soil investigations for structures; and
5. Foundation installation observations.

GEOTECHNICAL RISK

The concept of risk is an important aspect with any geotechnical evaluation primarily because the methods used to develop geotechnical recommendations do not comprise an exact science. We never have complete knowledge of subsurface conditions. Our analysis must be tempered with engineering judgment and experience. Therefore, the recommendations presented in any geotechnical evaluation should not be considered risk-free. Our recommendations represent our judgment of those measures that are necessary to increase the chances that the development and structures will perform satisfactorily. It is critical that all recommendations in this report are followed during construction.

LIMITATIONS

Exploratory borings were widely spaced to provide a preliminary picture of subsurface conditions for planning. We believe this investigation was conducted in a manner consistent with the level of care and skill ordinarily used by geotechnical

engineers practicing under similar conditions. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report or the analysis of the influence of subsurface conditions on the design of the proposed development, please call.

CTL | THOMPSON, INC.

Chris Fitzsimmons, E.I.T.
Staff Engineer

Reviewed by:

COLORADO LICENSED RONALD M McOMBER 20243 PROFESSIONAL ENGINEER

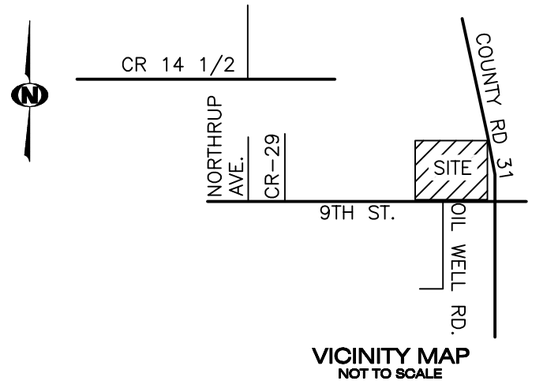
Ronald M. McOmber, P.E.
Chairman, Senior Principal

Ronald M. McOmber
Oct 26 2020

CF:RMM/nn

Via e-mail: don.guerra@landassetstrategies.com

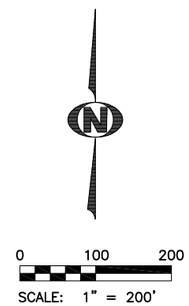




VICINITY MAP
NOT TO SCALE

LEGEND:

TH-1 APPROXIMATE LOCATION OF EXPLORATORY BORING



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Locations of Exploratory Borings

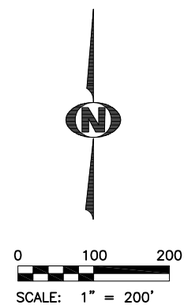
Fig. 1



LEGEND:

TH–1 ●	APPROXIMATE LOCATION OF EXPLORATORY BORING
(18)	INDICATES APPROXIMATE DEPTH TO BEDROCK (FEET)
[4959.5]	INDICATES ESTIMATED BEDROCK ELEVATION (FEET)
BNE	INDICATES BEDROCK WAS NOT ENCOUNTERED

NOTE: THIS ESTIMATE WAS BASED UPON A SUBJECTIVE ANALYSIS OF DRILL HOLE DATA AND MAY NOT REFLECT LOCAL VARIATIONS.



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Approximate Elevation and Depth to Bedrock

Fig. 2



LEGEND:

TH–1 ● APPROXIMATE LOCATION OF EXPLORATORY BORING

(8) INDICATES MEASURED DEPTH TO GROUNDWATER BELOW EXISTING GRADE (FEET)

[4969.5] INDICATES ESTIMATED GROUNDWATER ELEVATION (FEET)

NOTES:
1) THIS ESTIMATE WAS BASED UPON A SUBJECTIVE ANALYSIS OF DRILL HOLE DATA AND MAY NOT REFLECT LOCAL VARIATIONS AND SEASONAL FLUCTUATIONS.

2) READINGS SHOWN REFLECT MEASUREMENTS OBTAINED DURING DRILLING.

N

0 100 200

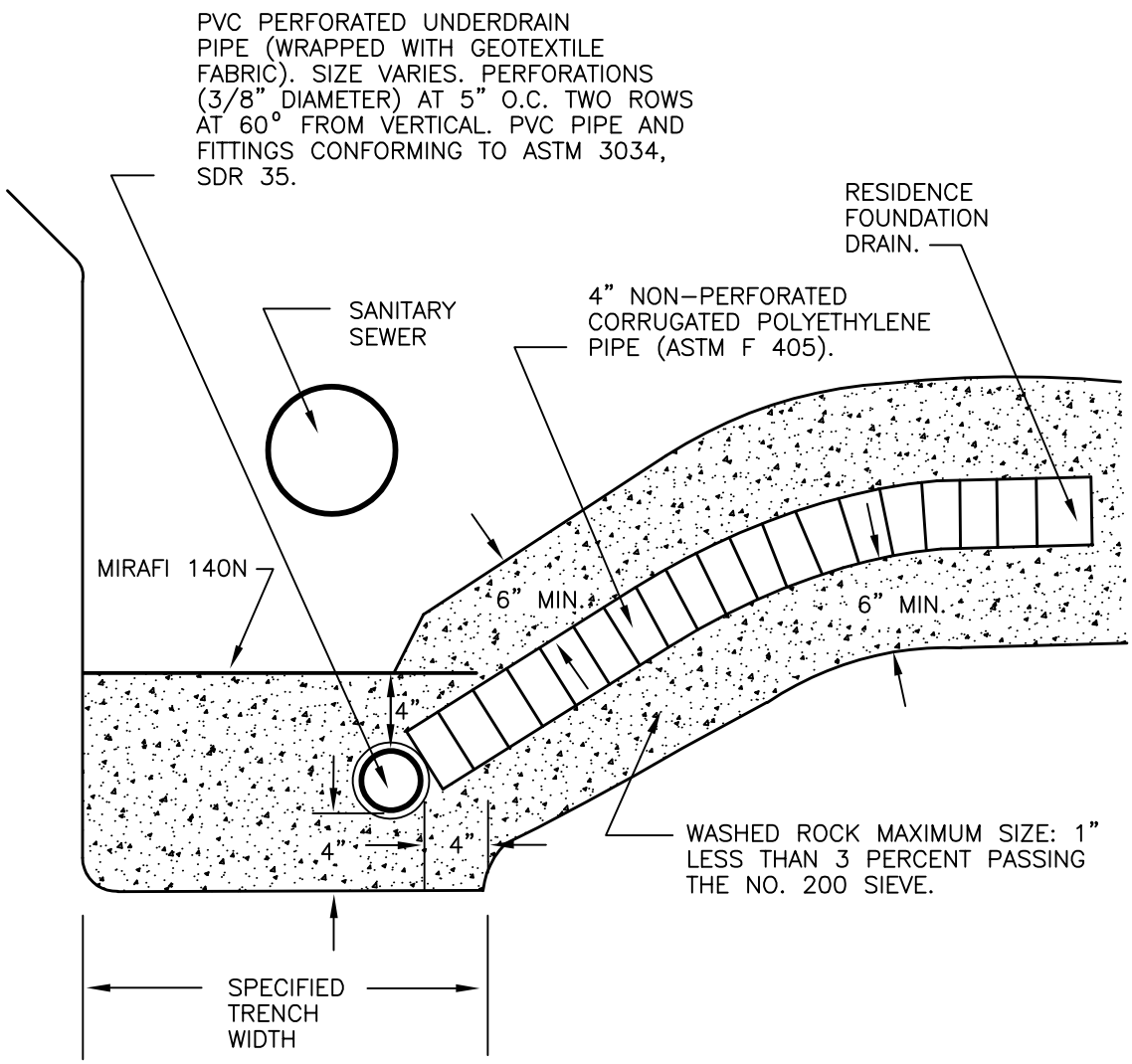
SCALE: 1" = 200'

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Approximate Elevation and Depth to Groundwater

Fig. 3

50-UNDERDRAIN_02



NOTE: NOT TO SCALE.

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Sewer Underdrain Detail

Fig. 4

50—UNDERDRAIN_06

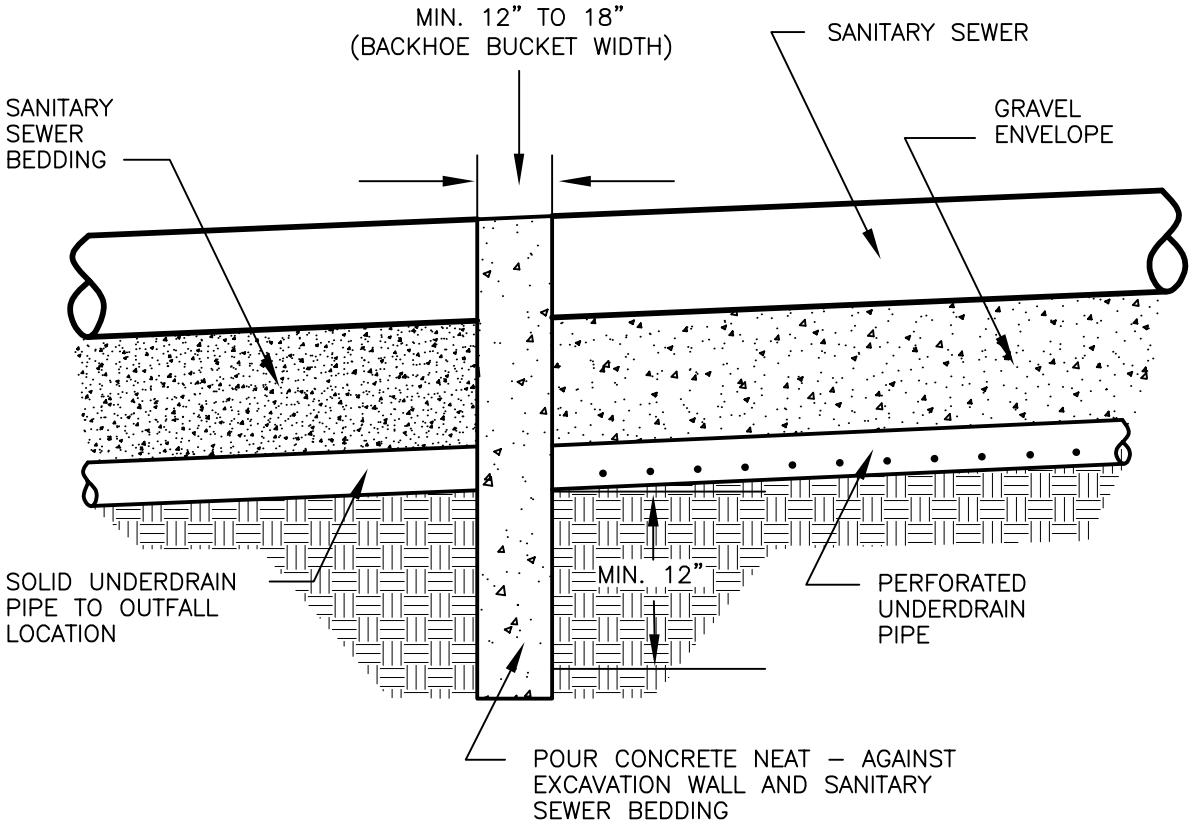
NOT TO SCALE

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Conceptual Underdrain Service Profile

Fig. 5

50-UNDERDRAIN_05



NOTE:
THE CONCRETE CUTOFF WALL SHOULD EXTEND INTO THE UNDISTURBED SOILS OUTSIDE THE UNDERDRAIN AND SANITARY SEWER TRENCH A MINIMUM DISTANCE OF 12 INCHES.

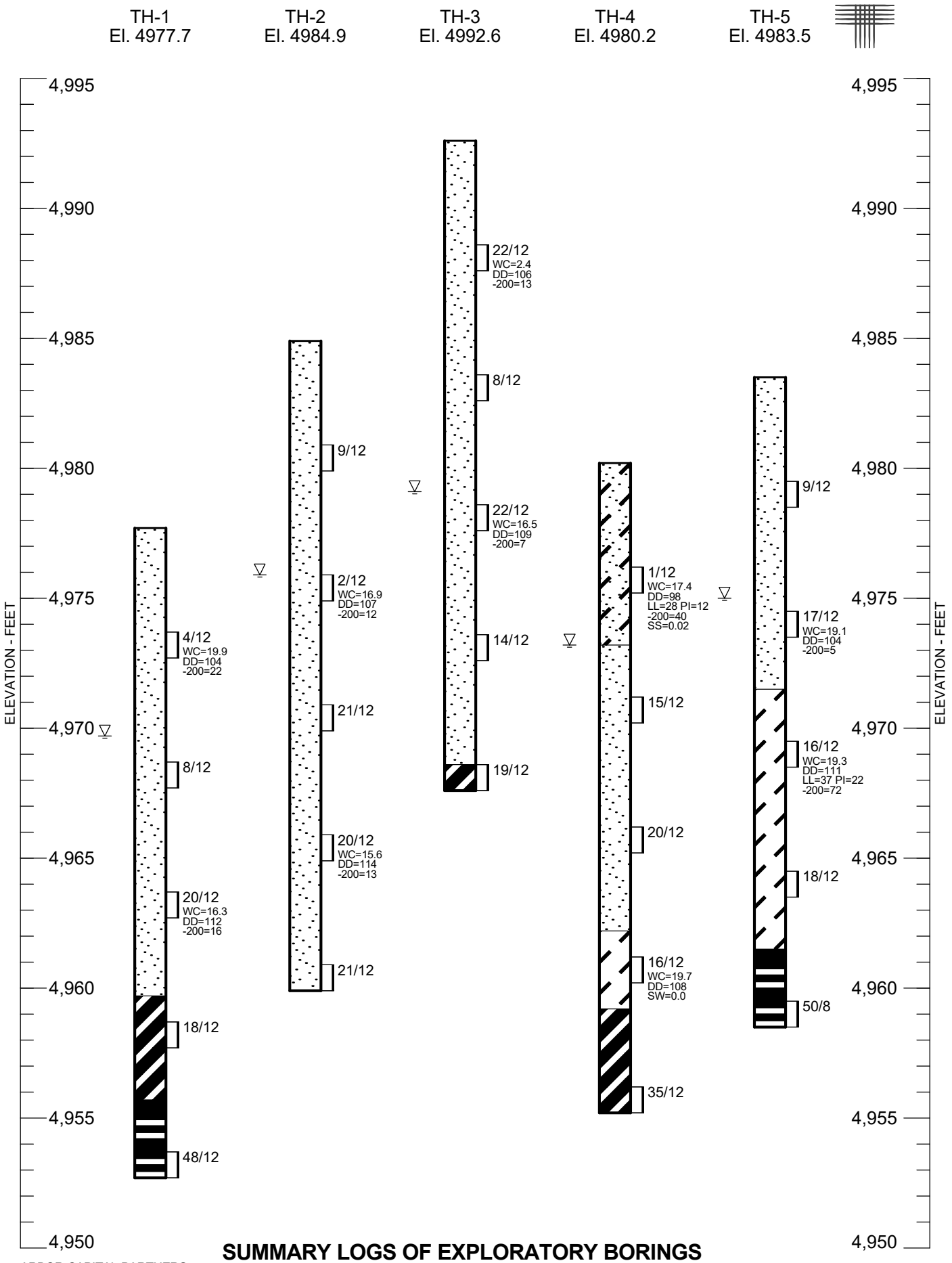
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Underdrain Cutoff Wall Detail

Fig. 6

APPENDIX A

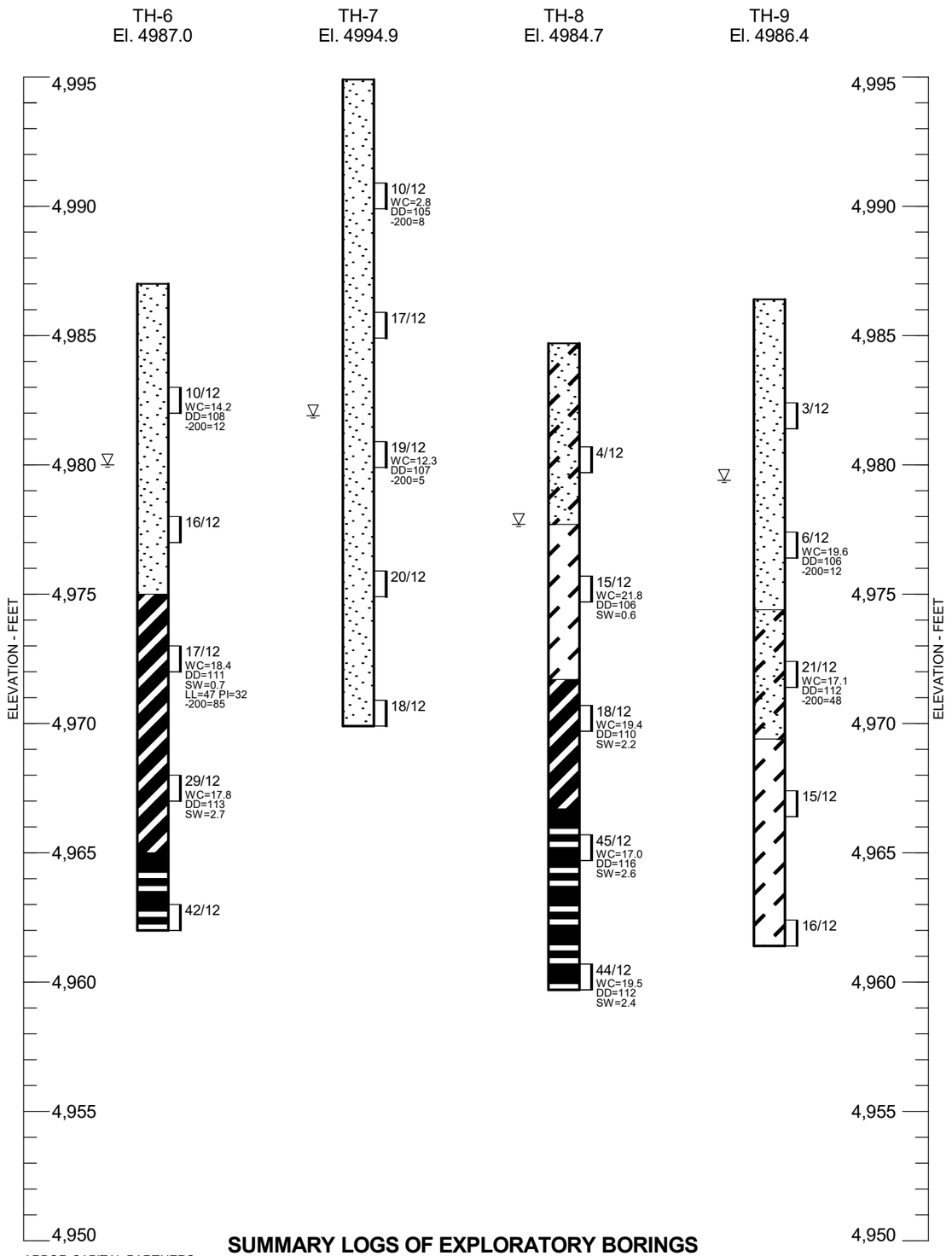
SUMMARY LOGS OF EXPLORATORY BORINGS



SUMMARY LOGS OF EXPLORATORY BORINGS

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FIG. A- 1



LEGEND:

CLAY, SANDY, SILTY, VERY STIFF, MOIST, BROWN, LIGHT BROWN, TAN (CL).

SAND, CLAYEY, VERY LOOSE TO MEDIUM DENSE, MOIST TO VERY MOIST, BROWN, LIGHT BROWN (SC).

SAND, SLIGHTLY SILTY TO SILTY, LOOSE TO MEDIUM DENSE, MOIST TO VERY MOIST, BROWN, TAN (SP, SP-SM).

WEATHERED CLAYSTONE, MOIST, BROWN, RUST, TAN, GRAY.

BEDROCK, CLAYSTONE, MEDIUM HARD TO HARD, MOIST, GRAY, RUST, TAN, BROWN.

DRIVE SAMPLE. THE SYMBOL 4/12 INDICATES 4 BLOWS OF AN AUTOMATIC 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.

WATER LEVEL MEASURED AT TIME OF DRILLING.

NOTES:

1. THE BORINGS WERE DRILLED ON SEPTEMBER 18, 2020 USING 4-INCH DIAMETER, CONTINUOUS-FLIGHT SOLID-STEM AUGER AND TRUCK-MOUNTED CME-45 DRILL RIG.
2. BORING LOCATIONS AND ELEVATIONS WERE DETERMINED BY A REPRESENTATIVE OF OUR FIRM USING A LEICA GS18 GPS UNIT REFERENCING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. WC - INDICATES MOISTURE CONTENT (%).
   DD - INDICATES DRY DENSITY (PCF).
   SW - INDICATES SWELL WHEN WETTED UNDER APPROXIMATE OVERBURDEN PRESSURE (%).
   LL - INDICATES LIQUID LIMIT.
   PI - INDICATES PLASTICITY INDEX.
   -200 - INDICATES PASSING NO. 200 SIEVE (%).
   SS - INDICATES WATER-SOLUBLE SULFATE CONTENT (%).
4. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS CONTAINED IN THIS REPORT.

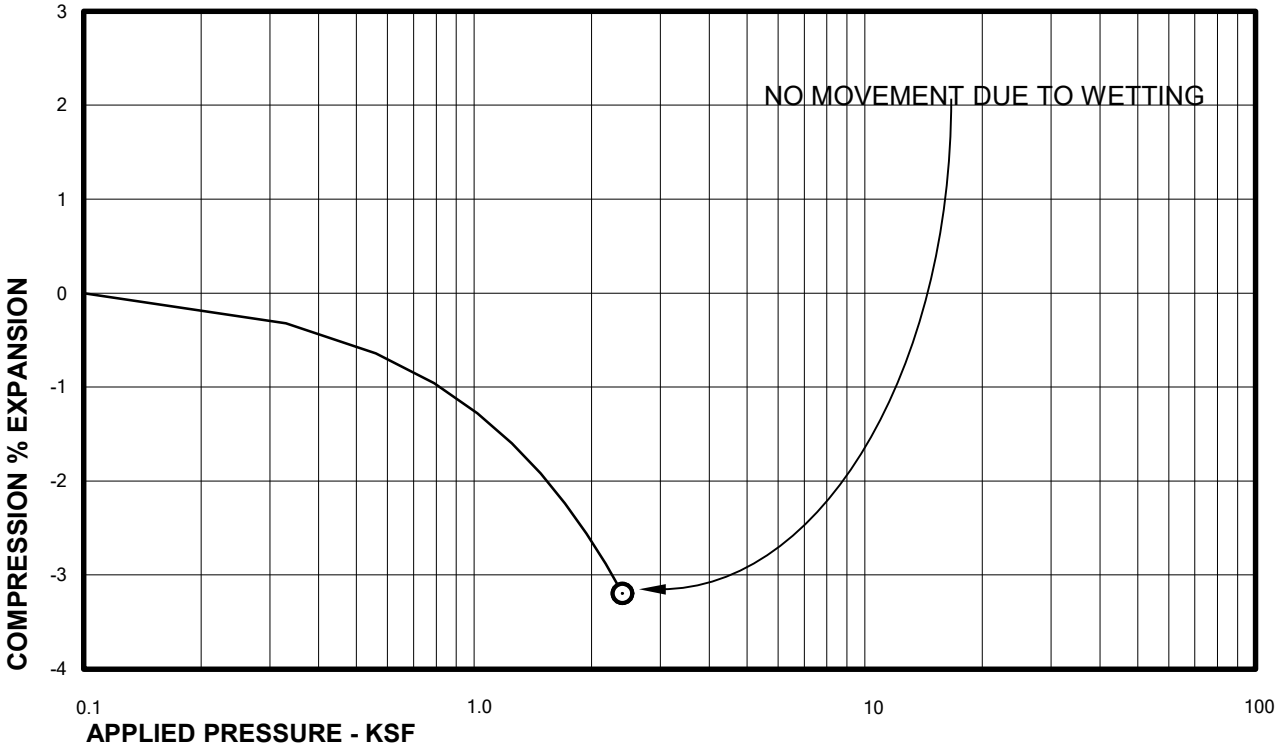
SUMMARY LOGS OF EXPLORATORY BORINGS

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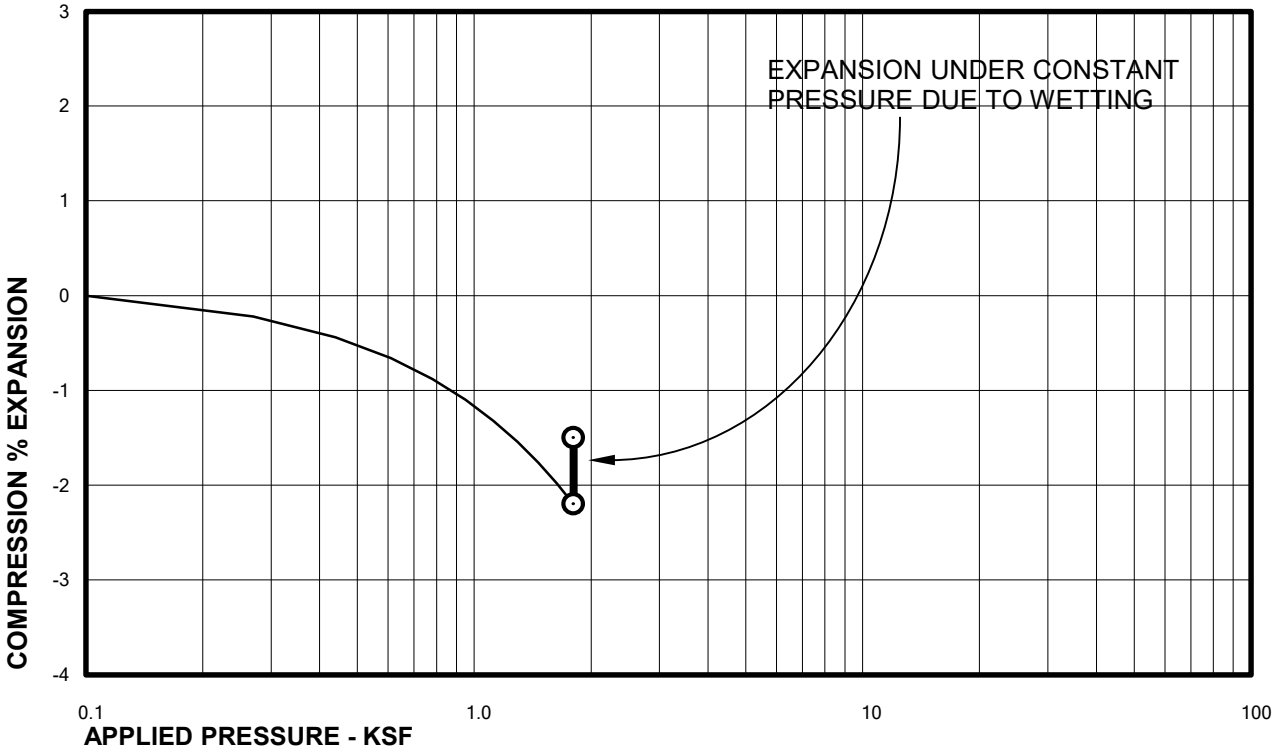
FIG. A- 2

APPENDIX B

LABORATORY TEST RESULTS AND TABLE B-I



Sample of CLAY, SANDY (CL) DRY UNIT WEIGHT= 108 PCF
From TH-4 AT 19 FEET MOISTURE CONTENT= 19.7 %

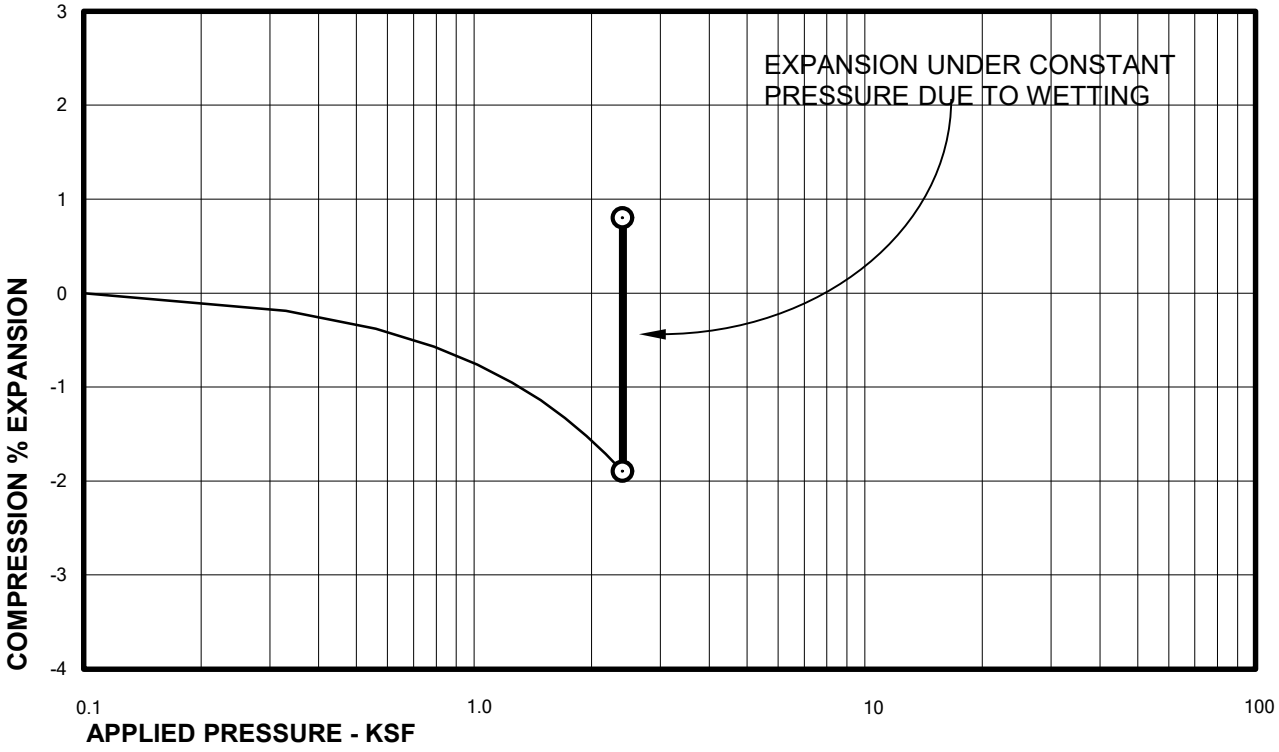


Sample of WEATHERED CLAYSTONE DRY UNIT WEIGHT= 111 PCF
From TH-6 AT 14 FEET MOISTURE CONTENT= 18.4 %

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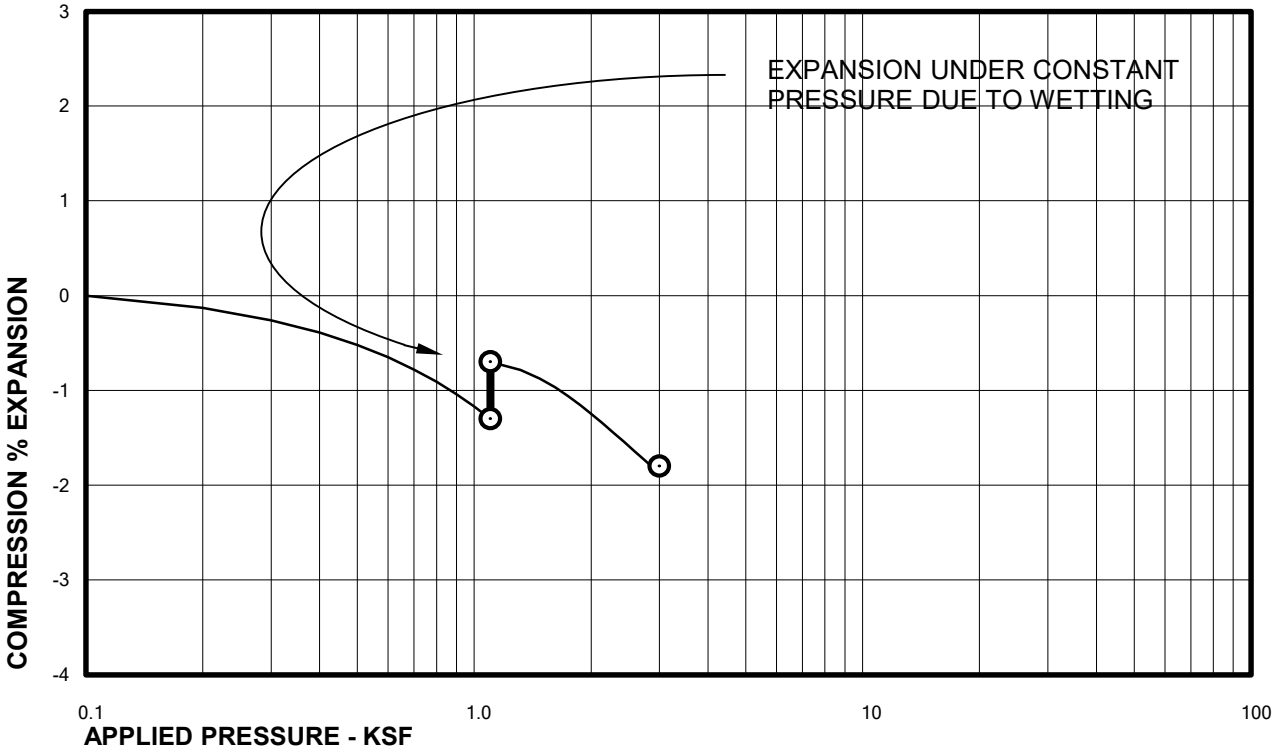
Swell Consolidation Test Results

FIG. B-1



Sample of WEATHERED CLAYSTONE
From TH-6 AT 19 FEET

DRY UNIT WEIGHT= 113 PCF
MOISTURE CONTENT= 17.8 %



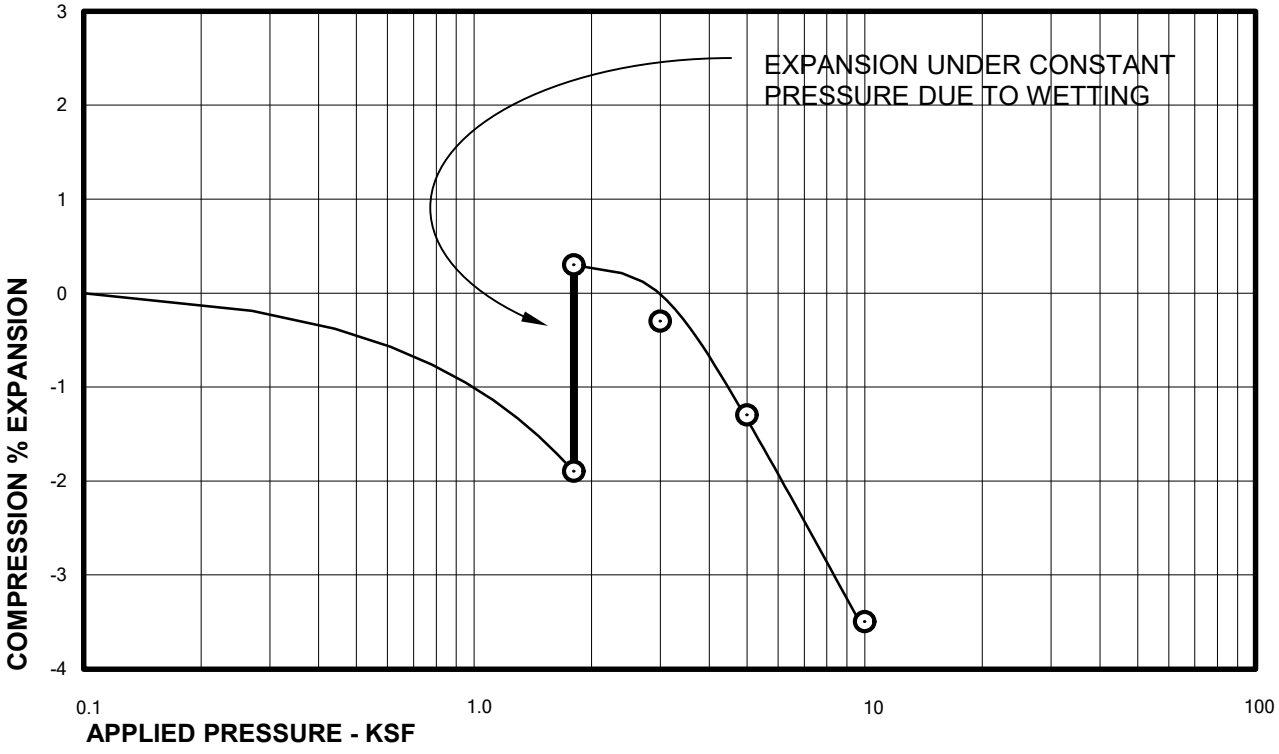
Sample of CLAY, SANDY (CL)
From TH-8 AT 9 FEET

DRY UNIT WEIGHT= 106 PCF
MOISTURE CONTENT= 21.8 %

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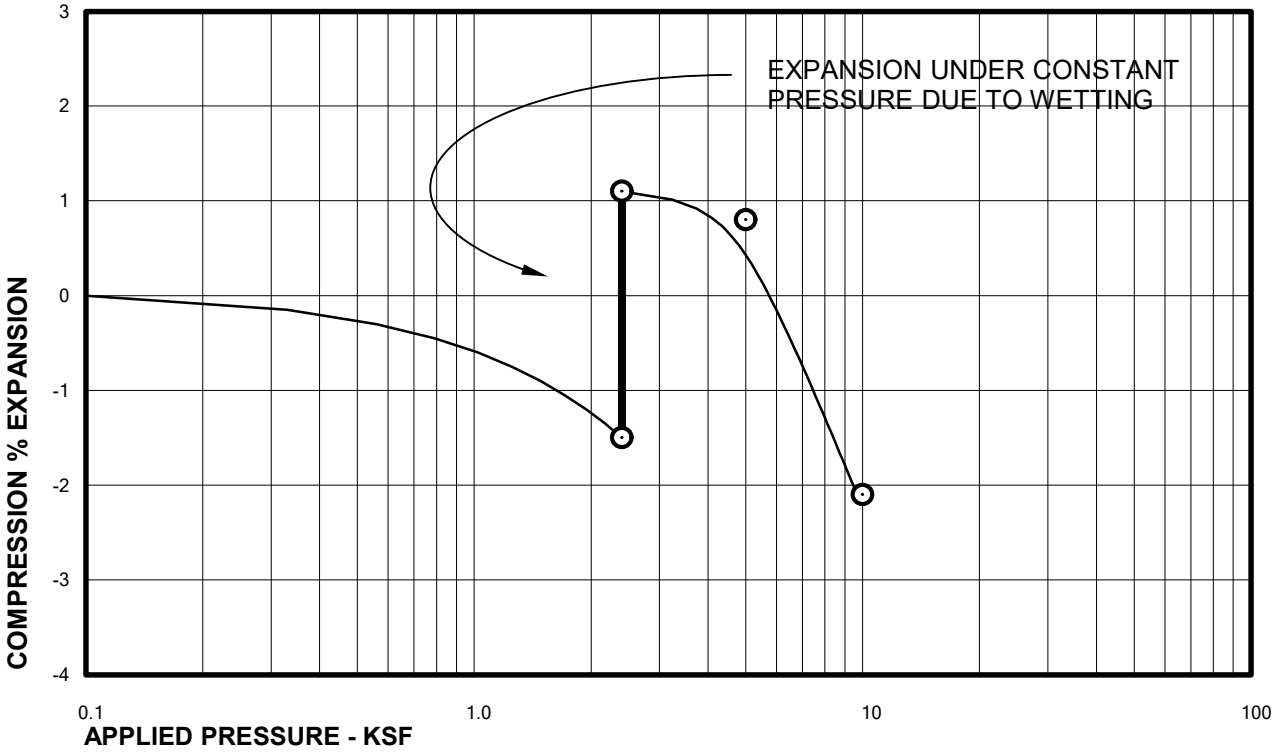
Swell Consolidation Test Results

FIG. B-2



Sample of WEATHERED CLAYSTONE
From TH-8 AT 14 FEET

DRY UNIT WEIGHT= 110 PCF
MOISTURE CONTENT= 19.4 %



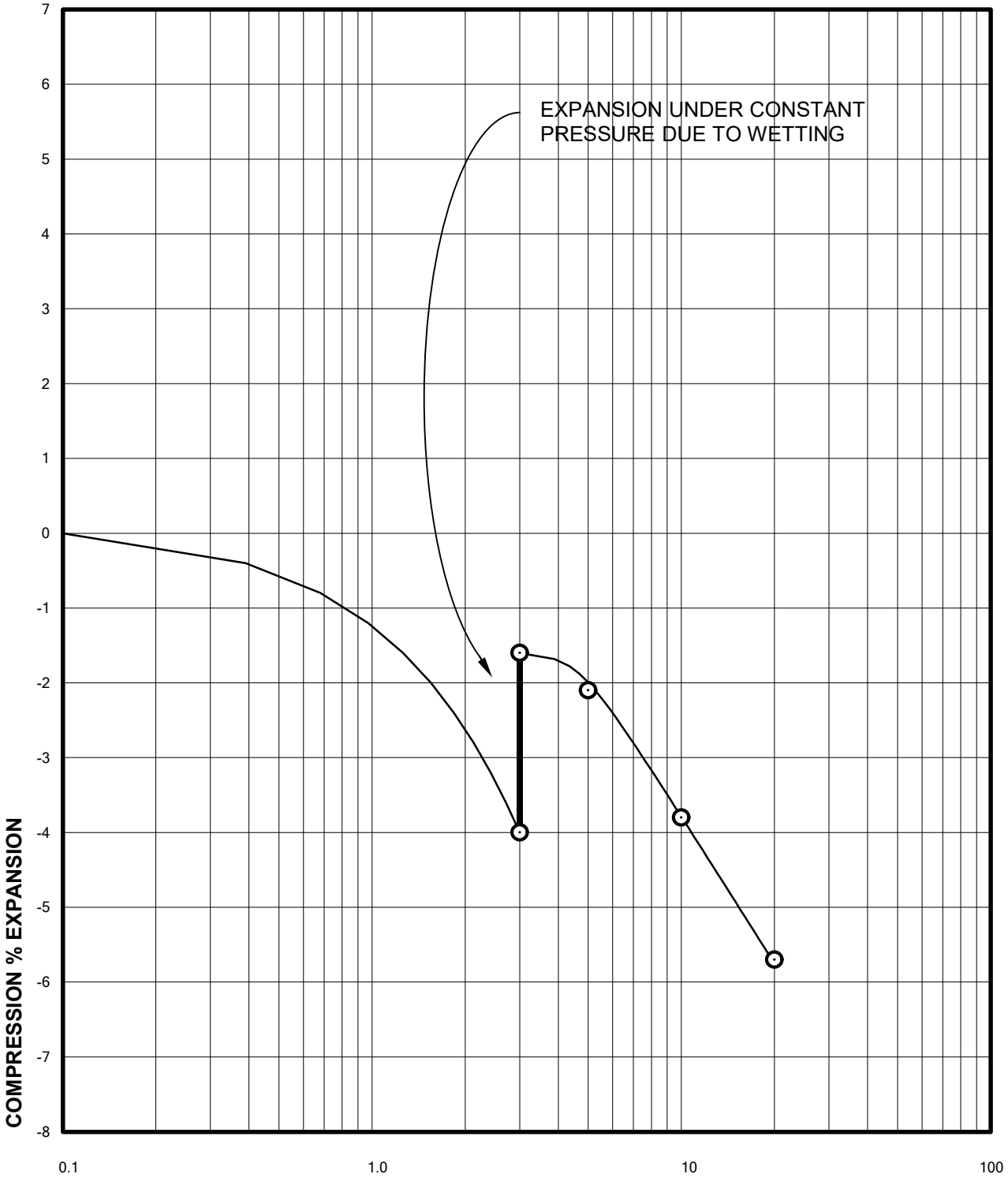
Sample of CLAYSTONE
From TH-8 AT 19 FEET

DRY UNIT WEIGHT= 116 PCF
MOISTURE CONTENT= 17.0 %

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Swell Consolidation Test Results

FIG. B-3



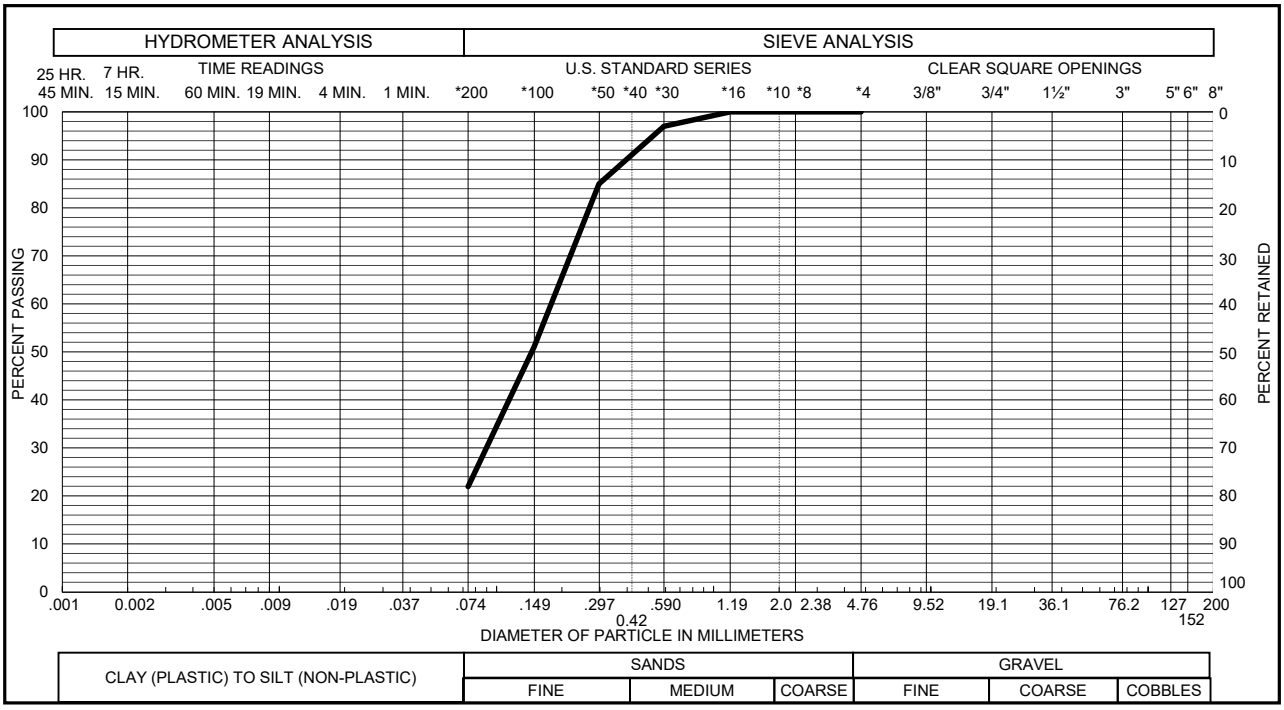
Sample of CLAYSTONE
From TH-8 AT 24 FEET

DRY UNIT WEIGHT= 112 PCF
MOISTURE CONTENT= 19.5 %

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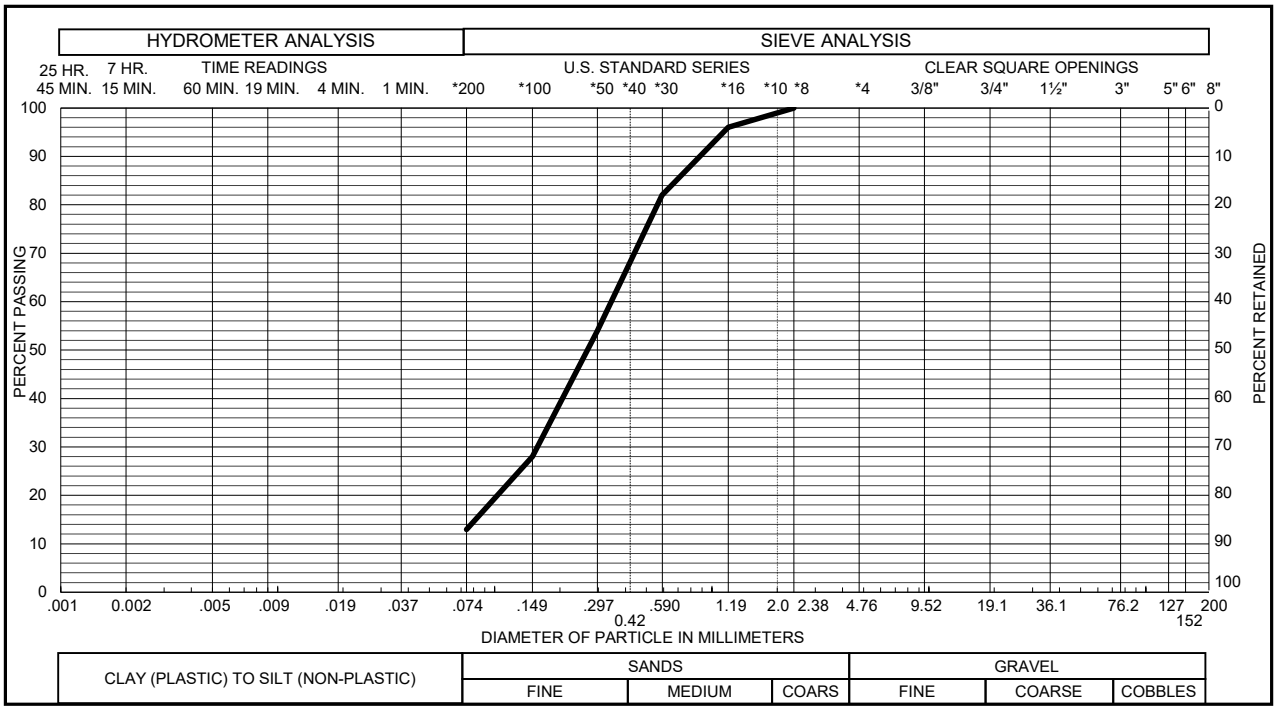
Swell Consolidation Test Results

FIG. B-4



Sample of SAND, SILTY (SM)
From TH - 1 AT 4 FEET

GRAVEL 0 % SAND 78 %
SILT & CLAY 22 % LIQUID LIMIT
PLASTICITY INDEX



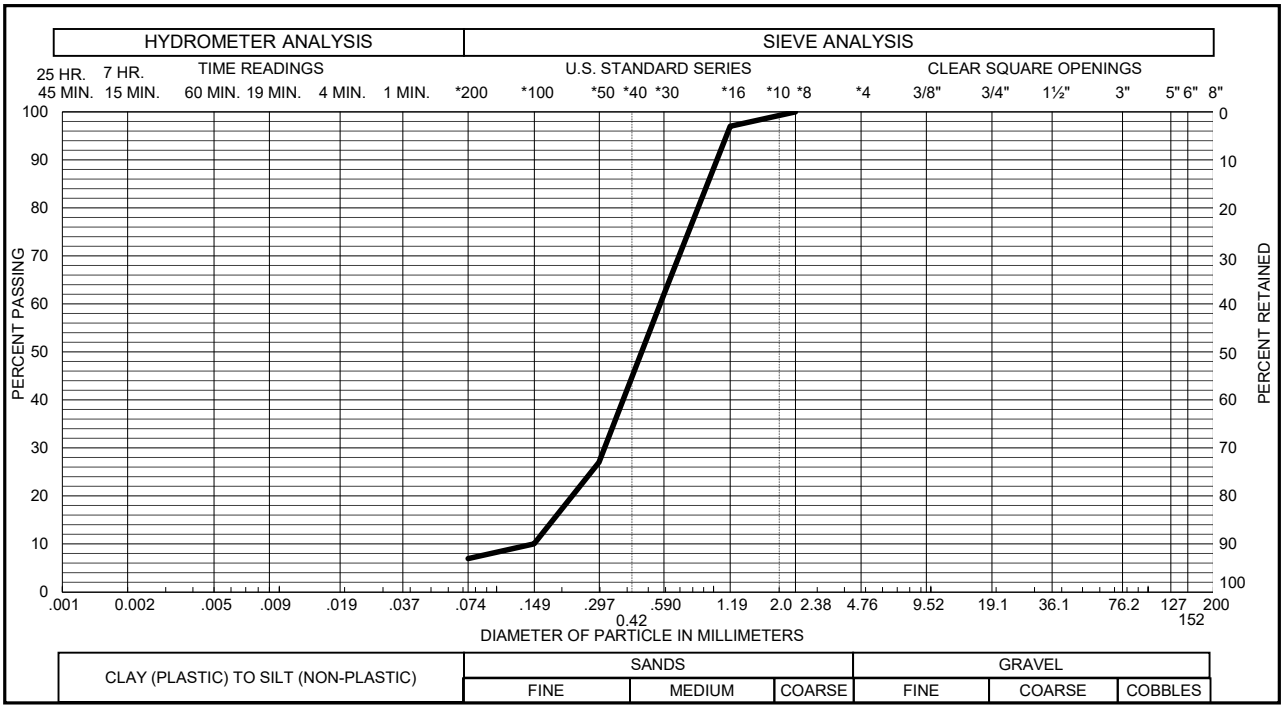
Sample of SAND, SILTY (SM)
From TH - 2 AT 19 FEET

GRAVEL 0 % SAND 87 %
SILT & CLAY 13 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

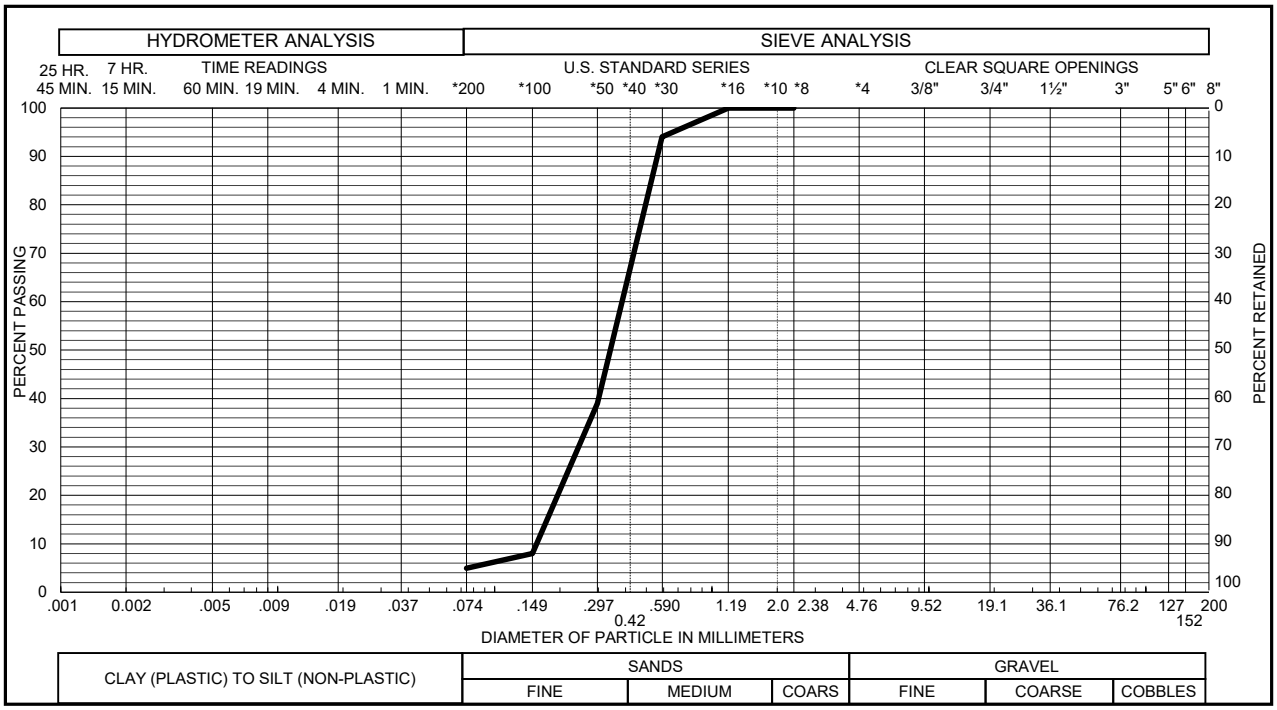
FIG. B-5

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Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 3 AT 14 FEET

GRAVEL 0 % SAND 93 %
SILT & CLAY 7 % LIQUID LIMIT
PLASTICITY INDEX



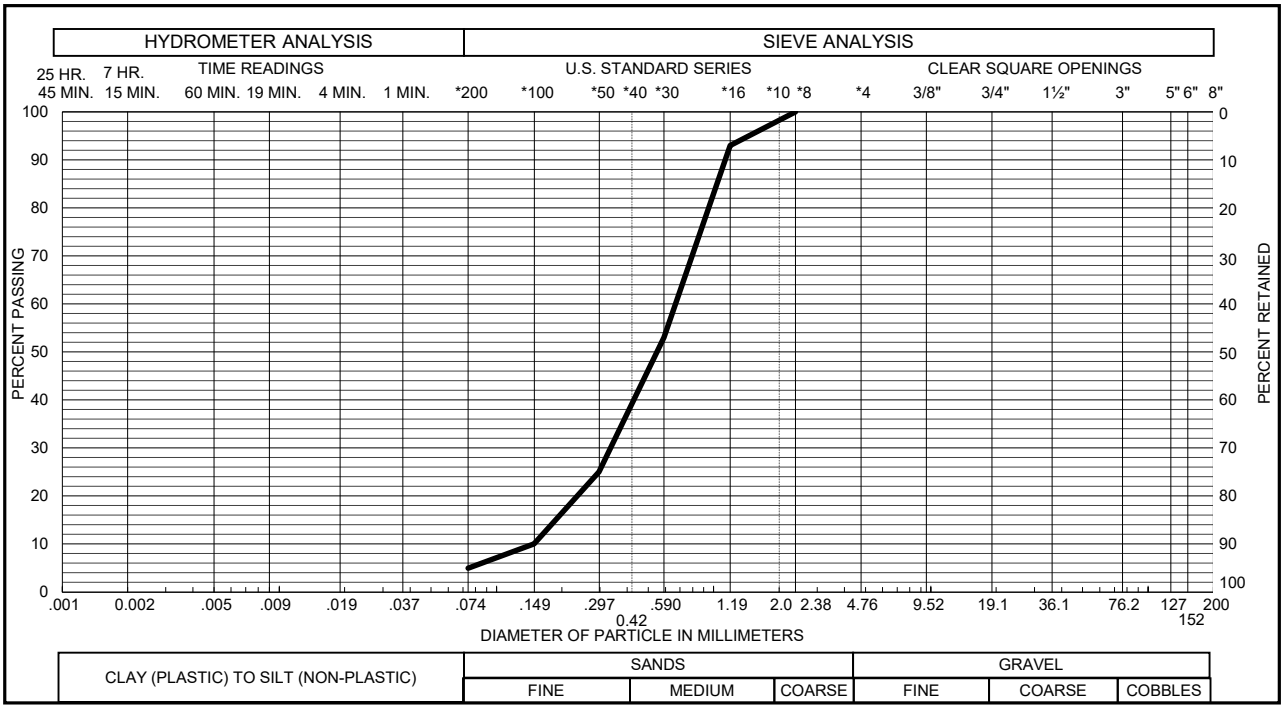
Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 5 AT 9 FEET

GRAVEL 0 % SAND 95 %
SILT & CLAY 5 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

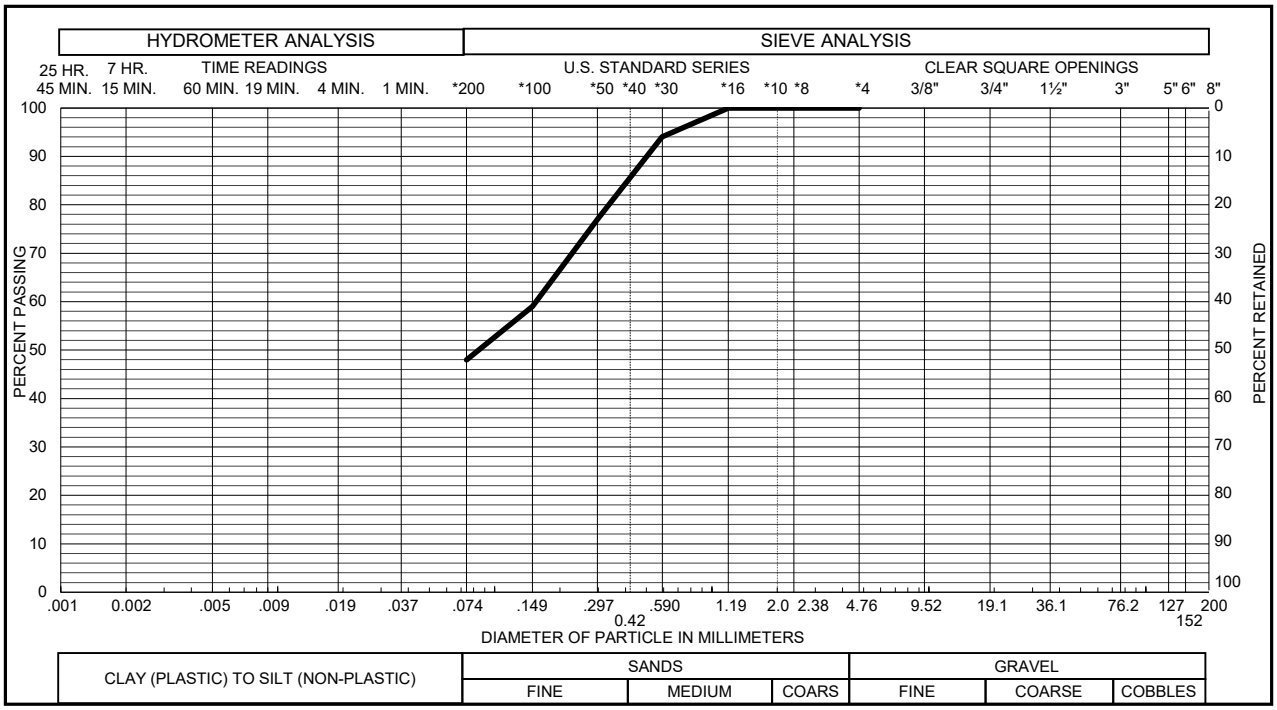
FIG. B-6

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Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 7 AT 14 FEET

GRAVEL 0 % SAND 95 %
SILT & CLAY 5 % LIQUID LIMIT
PLASTICITY INDEX



Sample of SAND, CLAYEY (SC)
From TH - 9 AT 14 FEET

GRAVEL 0 % SAND 52 %
SILT & CLAY 48 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

FIG. B-7

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TABLE B - I

SUMMARY OF LABORATORY TEST RESULTS

BORING	DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL TEST DATA			ATTERBERG LIMITS		SOLUBLE SULFATE CONTENT (%)	PASSING NO. 200 SIEVE (%)	SOIL TYPE
				SWELL (%)	APPLIED PRESSURE (psf)	SWELL PRESSURE (psf)	LIQUID LIMIT	PLASTICITY INDEX			
TH-1	4	19.9	104							22	SAND, SILTY (SM)
TH-1	14	16.3	112							16	SAND, SILTY (SM)
TH-2	9	16.9	107							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-2	19	15.6	114							13	SAND, SILTY (SM)
TH-3	4	2.4	106							13	SAND, SILTY (SM)
TH-3	14	16.5	109							7	SAND, SLIGHTLY SILTY (SP-SM)
TH-4	4	17.4	98				28	12	0.02	40	SAND, CLAYEY (SC)
TH-4	19	19.7	108	0.0	2,400						CLAY, SANDY (CL)
TH-5	9	19.1	104							5	SAND, SLIGHTLY SILTY (SP-SM)
TH-5	14	19.3	111				37	22		72	CLAY, SANDY (CL)
TH-6	4	14.2	108							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-6	14	18.4	111	0.7	1,800		47	32		85	WEATHERED CLAYSTONE
TH-6	19	17.8	113	2.7	2,400						WEATHERED CLAYSTONE
TH-7	4	2.8	105							8	SAND, SLIGHTLY SILTY (SP-SM)
TH-7	14	12.3	107							5	SAND, SLIGHTLY SILTY (SP-SM)
TH-8	9	21.8	106	0.6	1,100	2,000					CLAY, SANDY (CL)
TH-8	14	19.4	110	2.2	1,800	6,000					WEATHERED CLAYSTONE
TH-8	19	17.0	116	2.6	2,400	8,300					CLAYSTONE
TH-8	24	19.5	112	2.4	3,000	11,000					CLAYSTONE
TH-9	9	19.6	106							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-9	14	17.1	112							48	SAND, CLAYEY (SC)

APPENDIX C

GUIDELINE SITE GRADING SPECIFICATIONS
Cottonwood Greens Subdivision – Additional 38-acre Parcel
Fort Lupton, Colorado

GUIDELINE SITE GRADING SPECIFICATIONS

Cottonwood Greens Subdivision – Additional 38-acre Parcel
Fort Lupton, Colorado

1. DESCRIPTION

This item shall consist of the excavation, transportation, placement and compaction of materials from locations indicated on the plans, or staked by the Engineer, as necessary to achieve preliminary street and overlot grade elevations. These specifications shall also apply to compaction of excess cut materials that may be placed outside of the development boundaries.

2. GENERAL

The Soils Representative shall be the Owner's Representative. The Soils Representative shall approve fill materials, method of placement, moisture contents and percent compaction, and shall give written approval of the completed fill.

3. CLEARING JOB SITE

The Contractor shall substantially remove all debris, vegetation, organics and other deleterious materials before excavation or fill placement. The Contractor shall dispose of the cleared material to provide the Owner with a clean, neat appearing job site. Cleared material shall not be placed in areas to receive fill or where the material will support structures of any kind.

4. AREA TO BE FILLED

Debris, vegetation, organics and other deleterious materials shall be substantially removed from the ground surface upon which fill is to be placed. The surface shall then be plowed or scarified until the surface is free from ruts, hummocks or other uneven features, which would prevent uniform compaction.

After the foundation for the fill has been cleared and scarified, it shall be disced or bladed until it is free from large clods, brought to the proper moisture content (optimum to 3 percent above optimum moisture content for clays and within 2 percent of optimum moisture content for sands) and compacted to at least 95 percent of maximum dry density as determined in accordance with ASTM D 698.

5. FILL MATERIALS

Fill soils shall be substantially free from debris, vegetation, organics and other deleterious materials, and shall not contain rocks or lumps having a diameter greater than six (6) inches. Claystone bedrock should be broken down to three (3) inches or smaller in size. Fill materials shall be obtained from cut areas shown on the plans or staked in the field by the Engineer.

On-site materials classifying as CL, CH, SC, SM, SW, SP, GP, GC and GM are acceptable.

6. MOISTURE CONTENT

Fill material classifying as CH, CL and SC shall be moisture-conditioned between optimum and 3 percent above optimum moisture content. Granular soils classifying as SM, SW, SP, GP, GC and GM shall be moisture conditioned to within 2 percent of optimum moisture content as determined from Proctor compaction tests. Sufficient laboratory compaction tests shall be made to determine the optimum moisture content for the various soils encountered in borrow areas.

The Contractor may be required to add moisture to the excavation materials in the borrow area if, in the opinion of the Soils Representative, it is not possible to obtain uniform moisture content by adding water on the fill surface. The Contractor may be required to rake or disc the fill soils to provide uniform moisture content through the soils.

The application of water to embankment materials shall be made with any type of watering equipment approved by the Soils Representative, which will give the desired results. Water jets from the spreader shall not be directed at the embankment with such force that fill materials are washed out.

Should too much water be added to any part of the fill, such that the material is too wet to permit the desired compaction from being obtained, rolling and all work on that section of the fill shall be delayed until the material has been allowed to dry to the required moisture content. The Contractor will be permitted to rework wet material in an approved manner to hasten its drying.

7. COMPACTION OF FILL AREAS

Selected fill material shall be placed and mixed in evenly spread layers. After each fill layer has been placed, it shall be uniformly compacted to not less than the specified percentage of maximum density. Fill shall be compacted to at least 95 percent of the maximum density as determined in accordance with ASTM D 698. At the option of the Soils Representative, soils classifying as SW, GP, GC, or GM may be compacted to 95 percent of maximum density as determined in accordance with ASTM D 1557 or 70 percent relative density for cohesionless sand soils. Fill materials shall be placed such that the thickness of loose materials does not exceed 10 inches and the compacted lift thickness does not exceed 6 inches.

Compaction as specified above, shall be obtained by the use of sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other equipment for soils classifying as CL, CH, or SC. Granular fill shall be compacted using vibratory equipment or other approved equipment. Compaction shall be accomplished while the fill material is at the specified moisture content. Compaction of each layer shall be continuous over the entire area. Compaction equipment shall make sufficient trips to ensure that the required density is obtained.

8. COMPACTION OF SLOPES

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction operations shall be continued until slopes are stable, but not

too dense for planting, and there is no appreciable amount of loose soils on the slopes. Compaction of slopes may be done progressively in increments of three to five feet (3' to 5') in height or after the fill is brought to its total height. Permanent fill slopes shall not exceed 3:1 (horizontal to vertical).

9. PLACEMENT OF FILL ON NATURAL SLOPES

Where natural slopes are steeper than 20 percent in grade and the placement of fill is required, benches shall be cut at the rate of one bench for each 5 feet in height (minimum of two benches). Benches shall be at least 10 feet in width. Larger bench widths may be required by the Engineer. Fill shall be placed on completed benches as outlined within this specification.

10. DENSITY TESTS

Field density tests shall be made by the Soils Representative at locations and depths of his choosing. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches. Density tests shall be taken in compacted material below the disturbed surface. When density tests indicate that the density or moisture content of any layer of fill or portion thereof is not within specification, the particular layer or portion shall be reworked until the required density or moisture content has been achieved.

11. SEASONAL LIMITS

No fill material shall be placed, spread or rolled while it is frozen, thawing, or during unfavorable weather conditions. When work is interrupted by heavy precipitation, fill operations shall not be resumed until the Soils Representative indicates that the moisture content and density of previously placed materials are as specified.

12. NOTICE REGARDING START OF GRADING

The Contractor shall submit notification to the Soils Representative and Owner advising them of the start of grading operations at least three (3) days in advance of the starting date. Notification shall also be submitted at least 3 days in advance of any resumption dates when grading operations have been stopped for any reason other than adverse weather conditions.

13. REPORTING OF FIELD DENSITY TESTS

Density tests made by the Soils Representative, as specified under "Density Tests" above, shall be submitted progressively to the Owner. Dry density, moisture content, and percentage compaction shall be reported for each test taken.

14. DECLARATION REGARDING COMPLETED FILL

The Soils Engineer shall provide a written declaration stating that the site was filled with acceptable materials, and was placed in general accordance with the specifications.

Traffic Impact Study
Cottonwood Greens PUD

January 24, 2022



Prepared for:
Arbor Capital Partners LLC

Rollins Consult LLC

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1 INTRODUCTION

This report documents the results of a study to evaluate the potential traffic impacts of the proposed Cottonwood Greens project in the City of Fort Lupton, Colorado. Rollins Consult LLC conducted the study in support of the development application for the proposed project. This study is a follow-up to the original traffic study that was dated October 7, 2019. The site includes some additional property that is addressed in this study.

PROJECT DESCRIPTION

The Cottonwood Greens project is in the City of Fort Lupton, west of Weld County Road (CR) 31 and north of 9th Street. The site is bounded by the Fulton Ditch and the future alignment of 14th Street. The project site is comprised of approximately 153 acres. The site is surrounded by undeveloped land to the north and east. South of the site is a golf course and government facilities. West of the project site is a church, residential development, and undeveloped land. Figure 1 illustrates the project location and study area.

The project site is depicted on Figure 2. The site was designed with numerous roadways which allow for the distribution of pedestrians, bicycles, and vehicles. The internal roadways were designed as a curvilinear grid. There is also a pedestrian and bicycle trail (the Man Fulton Ditch Trail) proposed that follows the alignment of the Fulton Ditch.

The project proposes the following land uses and transportation elements:

- There are 404 single family homes proposed.
- 137 townhomes would be in the southern part of the project.
- Access to public roadways would be provided at five connections. Three access locations are proposed from 9th Street. One access is provided to CR 31. One access will be provided to 14th Street.
- The internal roadway system has been designed to accommodate the project traffic.
- The proposed pedestrian and bicycle trail along the Fulton Ditch will connect to both the planned Fort Lupton Trail and the Main Fulton Ditch Trail. The site also provides parking and access to future bike/ped trails.

Figure 1 – Project Location

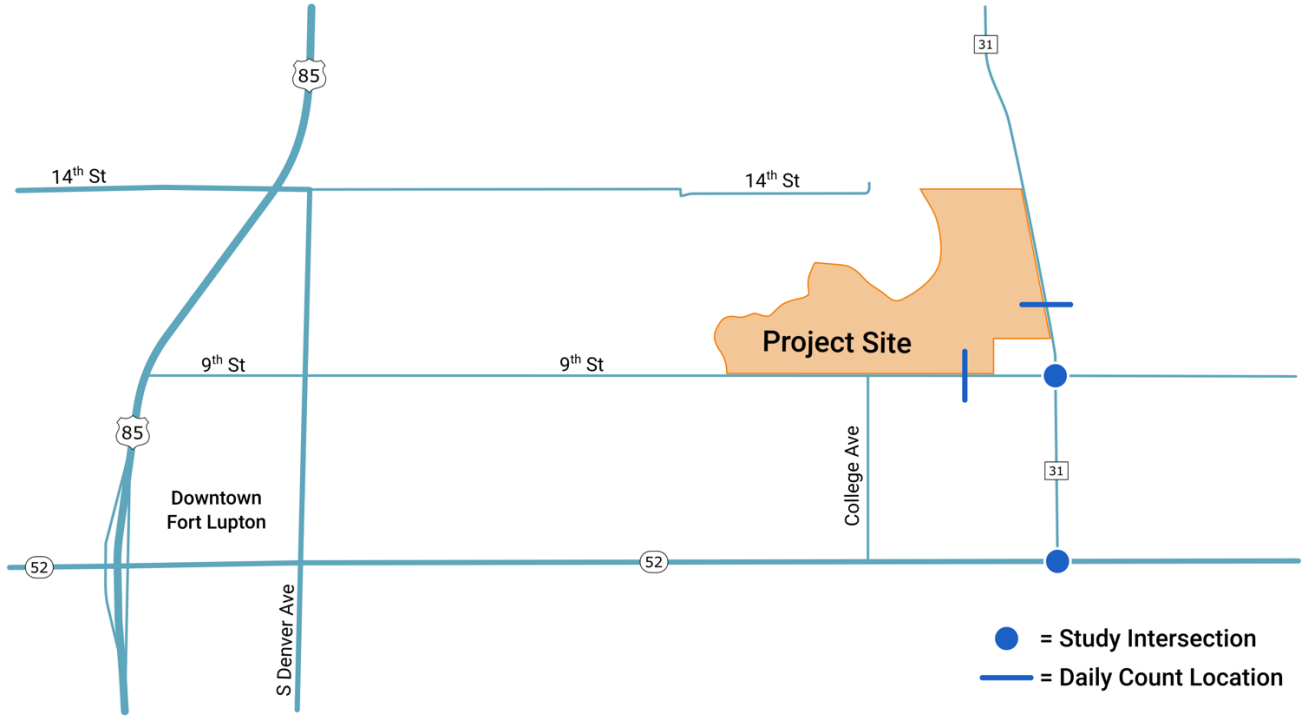
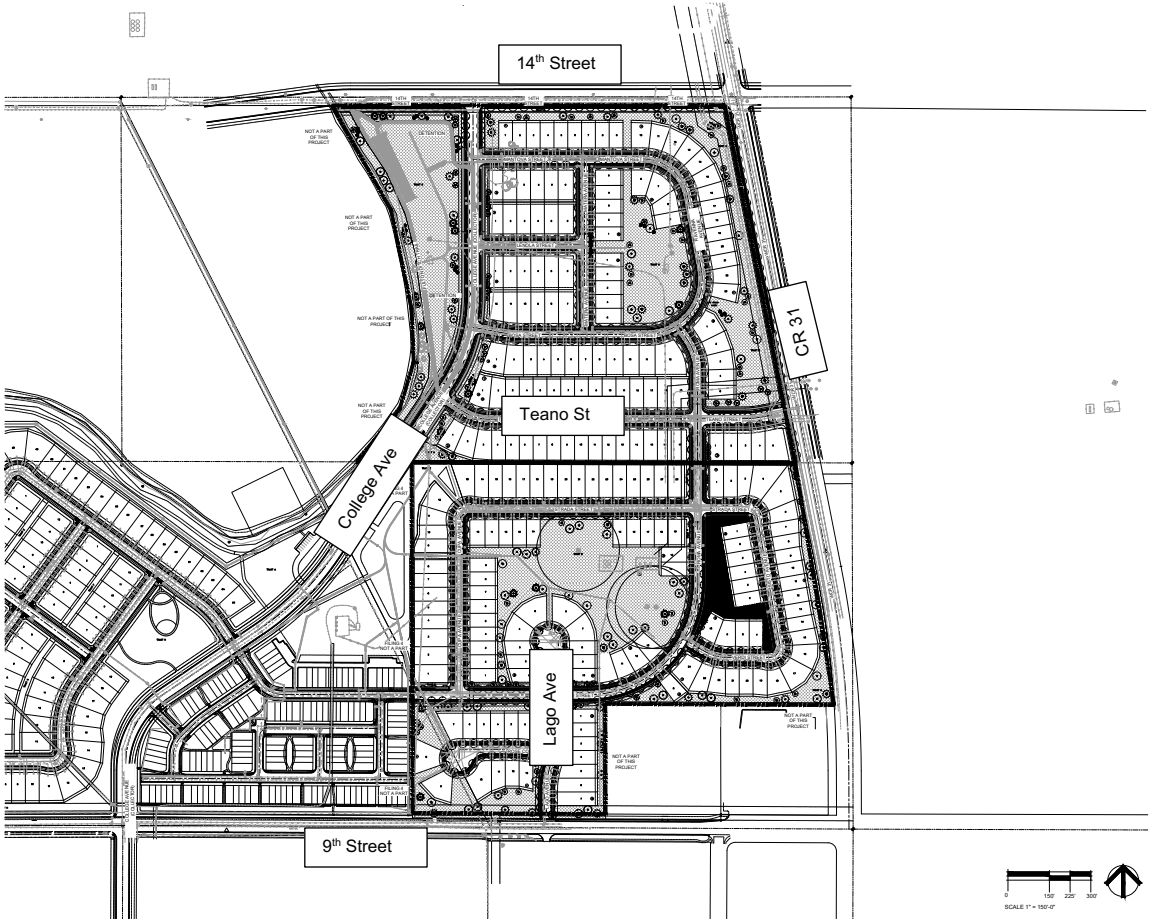


Figure 2 - Project Site Plan



STUDY SCOPE

The scope of work for this study was developed in conjunction with the City of Fort Lupton's Public Works department. The base assumptions, technical methodologies, and geographic coverage of the study were all identified as part of the study approach. The study analyzes the potential project-generated traffic impacts on the adjacent street system.

The study evaluates the potential changes to the transportation system after the completion of the proposed Cottonwood Greens residential project for two future horizon years. The analysis of future year traffic forecasts is based on projected conditions in years 2027 (short-range conditions) and 2040 (long-range future conditions) both with and without the addition of the project traffic. The following transportation scenarios were analyzed for the AM and PM peak hours:

- **Existing Conditions** – The analysis of existing traffic conditions provides a basis for the remainder of the study. The existing transportation system is described. Peak hour intersection operations are evaluated.
- **Project Travel Demand** – The traffic generated by the Project will be estimated, distributed, and assigned to the transportation network.
- **2027 and 2040 Background Conditions** – Future traffic conditions are projected without the proposed Project for the project buildout year 2027 and the long-range future year 2040. The traffic volumes on the roadway system will be factored and analyzed to reflect conditions for 2027 and 2040. This analysis will include the addition of traffic from other potential projects.
- **Total Future Conditions** – The traffic associated with the project will be projected and added to the Background traffic. The intersection operations will be determined.

The study examined three intersections within the study area. These were identified by the City of Fort Lupton for inclusion in the study. The study intersections are shown on Figure 1 and listed below.

1. CR 31 & SH 52
2. CR 31 & 9th Street
3. Future CR 31 & 14th Street (to be connected to CR 31 by 2027)

2 EXISTING CONDITIONS

The transportation system has numerous elements that are described in this chapter. The roadway network identified for this study is described and traffic volume information is presented for the study intersections.

ADJACENT LANDUSE

The Project site is located west of CR 31 and north of 9th Street. The site is currently undeveloped land and is located to the east of downtown Fort Lupton. It is surrounded by undeveloped land, rural residential, and industrial to the north and east. South of the site is a golf course and government facilities. West of the project site is a church, residential development, and undeveloped land.

TRANSPORTATION NETWORK

The primary roadways that serve the Project site are described below. Roadway designations were provided in the *Fort Lupton Transportation Plan,* June 2018.

Roadway Network

State Highway (SH) 52 – This is a two-lane state highway that provides regional connections to Interstate 25 west of Fort Lupton, US 85 in Fort Lupton, and Interstate 76 to the east. In the study area, this is a two-lane east-west roadway with narrow paved shoulders. The speed limit is posted at 55 mph. At the intersection with CR 31, there are turn/auxiliary lanes provided.

CR 31 is a north-south two-lane roadway. The speed limit is posted at 45 mph in the study area. CR 31 has no improved shoulders. It is identified as a truck route by Fort Lupton. Currently, CR 31 terminates at State Highway (SH) 52.

9th Street is an east-west two-lane roadway. Directly west of CR 31, 9th Street is a paved roadway with sidewalks. The intersection of 9th Street at CR 31 is improved for the eastbound direction. The speed limit is 40 mph. East of CR 31, 9th Street is an unpaved two-lane roadway.

College Avenue is a north-south two-lane roadway that currently exists south of the Project site. Near 9th Street it is unpaved. Near SH 52 it is paved and provides access to Aims Community College. The City of Fort Lupton plans on improving College Avenue by paving it from 9th Street south to its' current pavement.

EXISTING TRAFFIC CONDITIONS

Existing intersection operations were evaluated for both the morning and evening peak hours. Intersection count data and daily counts were collected on Wednesday, April 24, 2019. **Appendix A** includes the intersection turning movement and daily count data. The resulting peak hour turning movement and daily volumes are provided on Figure 4. The current lane configurations of the study intersections are shown on Figure 5.

Intersection Level of Service Analysis Methodologies

Transportation professionals evaluate intersections to determine how they are currently operating and will operate in the future. The methods employed can be found in the Transportation Research Board's, 6th Edition, 2016 *Highway Capacity Manual* (HCM). Level of service (LOS) is based on a "graded" system from LOS A, very little to no delays, to LOS F which represents excessive delays and congestion.

The City of Fort Lupton has established a Level of Service criteria within their *Standards and Specifications for the Design and Construction of Public Improvements,* 2015. Chapter 8 – Traffic Control states: "Level of Service "C" shall be the design objective for all movements, and under no circumstances will less than Level of Service "D" be accepted for site and non-site traffic, including existing traffic at Build-out of the study area." Definitions for level of service are provided for both unsignalized (existing operations) and signalized conditions.

Unsignalized Intersection

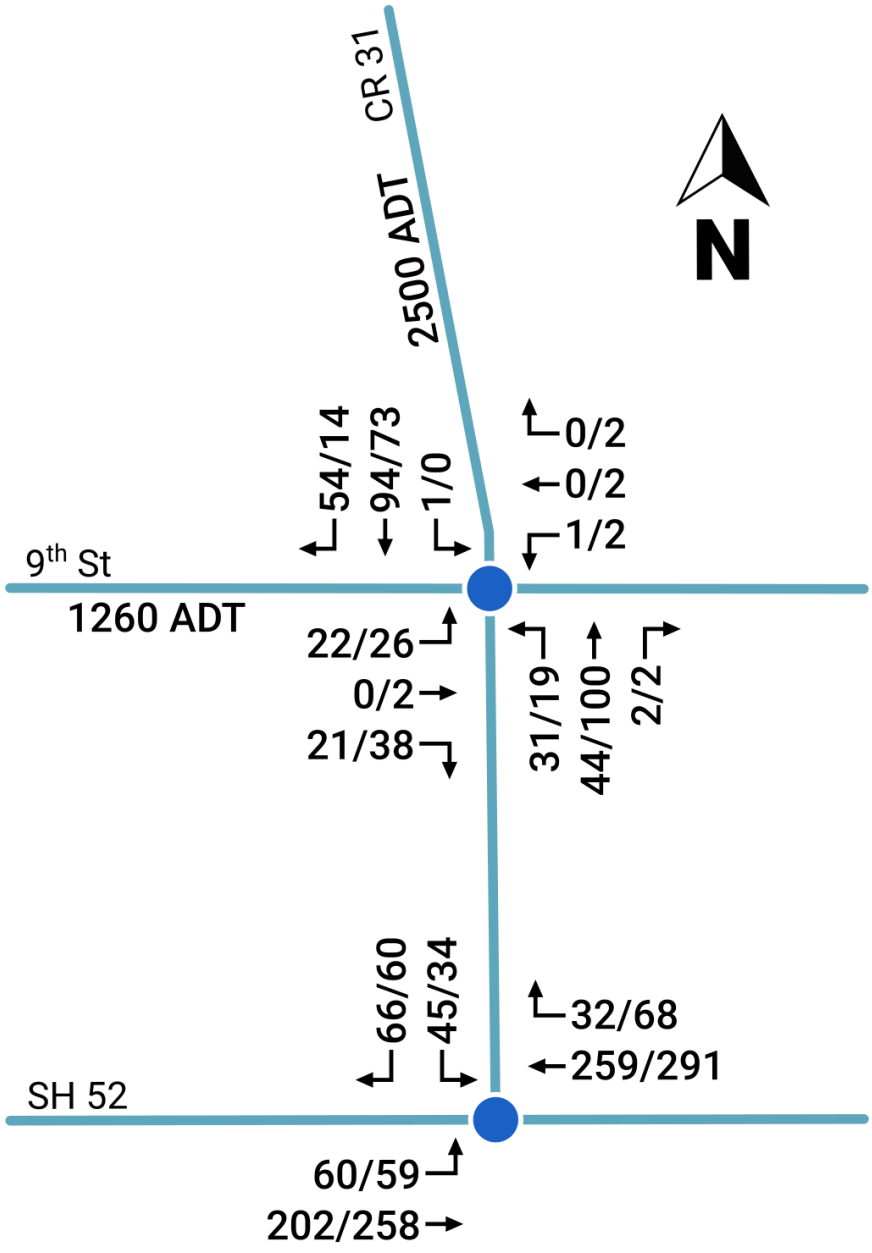
Peak hour levels of motor vehicle delay at unsignalized intersections were estimated using the method from Chapter 17 of the 2016 *Highway Capacity Manual*. The delays for the entire intersection and each of the constrained movements are reported. Table 1 summarizes the relationship between average control delay per vehicle and LOS for unsignalized intersections.

Table 1 Unsignalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	No delay for stop-controlled approaches.
B	10.0 and ≤15.0	Operations with minor delay.
C	>15.0 and ≤25.0	Operations with moderate delays.
D	>25.0 and ≤35.0	Operations with increasingly unacceptable delays.
E	>35.0 and ≤50.0	Operations with high delays, and long queues.
F	>50.0	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.

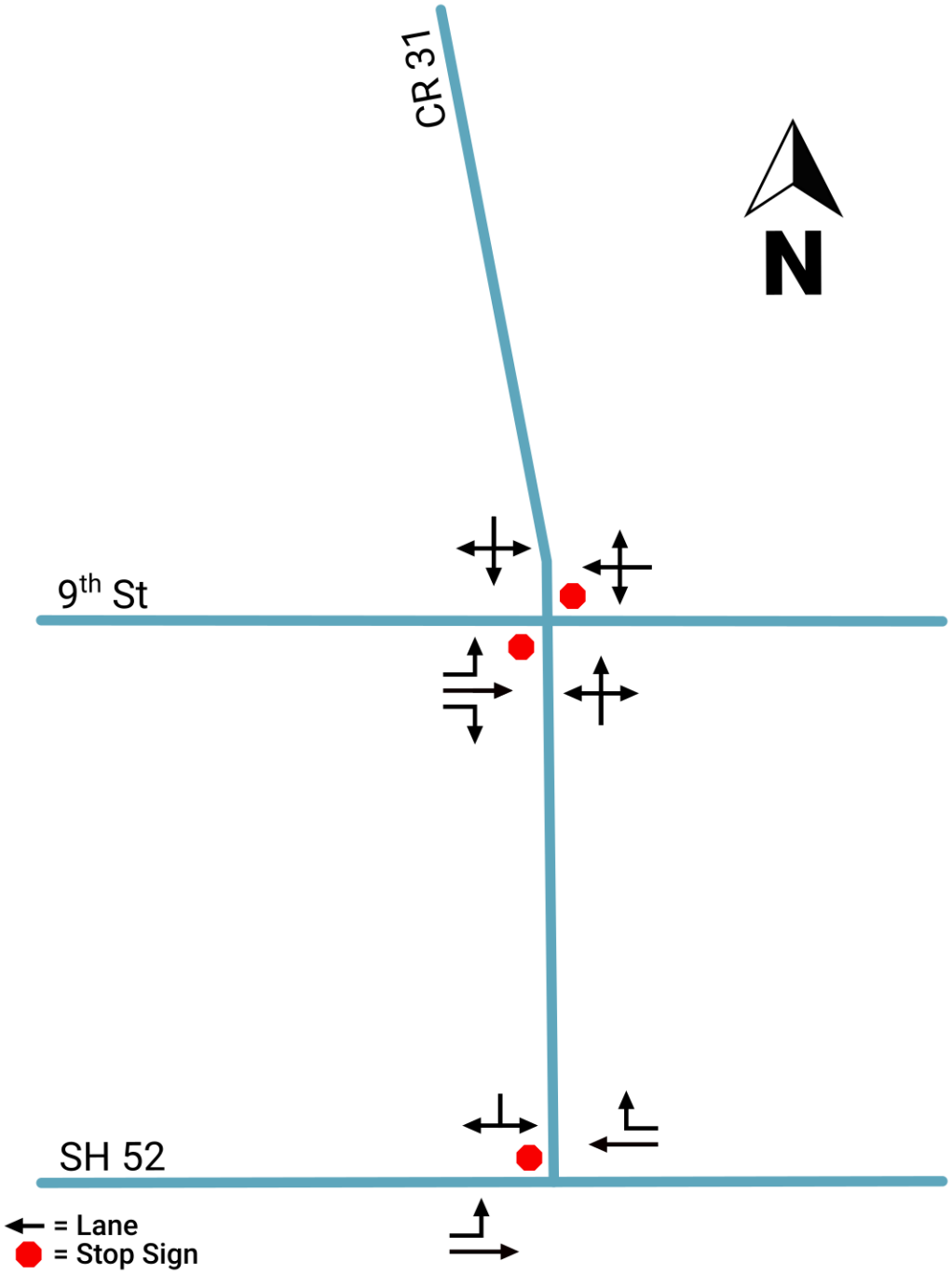
Source: Transportation Research Board, Highway Capacity Manual, 2016.

Figure 3 – Existing Peak Hour & Daily Volumes



AM/PM Peak Hour Turning Movements
ADT = Average Daily Traffic

Figure 4 – Existing Lane Configurations



Signalized Intersections

Peak hour levels of motor vehicle delay at signalized intersections were estimated using methods provided in Transportation Research Board's 2010 Highway Capacity Manual. This operations analysis method uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay

experienced by motorists traveling through an intersection. Control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue Table 2 summarizes the relationship between average control delay per vehicle and LOS for signalized intersections.

Table 2 Signalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable, and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally, occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop but dissipate rapidly, without excessive delays.
E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: Transportation Research Board, Highway Capacity Manual, 2016.

Existing Intersection Conditions

Using the HCM methodology, the weekday AM and PM peak hour intersection operations were determined. The results are provided in Table 3. As indicated in the table, both study intersections are currently operating at acceptable levels of service. The detailed analysis worksheets are provided in Appendix B.

Table 3 Existing Weekday Peak-Hour Intersection Level of Service

#	Intersection	Overall Movement	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
1	CR 31 & SH 52 T Stop Control	Overall	2.9	A	2.2	A
		EB LT	8.1	A	8.3	A
		SB	13	B	13.2	B
2	CR 31 & 9th Street Two Way Stop Control	Overall	2.5	A	3	A
		NB LT	7.6	A	7.4	A
		EB LT	10.4	B	10.3	B
		EB T	0	A	10.5	B
		EB RT	9	A	8.9	A
		WB	10.5	B	10	B
		SB LT	7.3	A	0	A

Notes:
1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. Average vehicle delay (in seconds per vehicle) is reported for both overall intersection and each constrained /STOP-controlled movement or approach.

3 PROJECT TRAVEL DEMAND

This chapter provides an overview of the project and a description of the travel demand methodology to estimate vehicle trip generation, distribution, and assignment of project-generated traffic along area roadways and intersections.

PROJECT CHARACTERISTICS

The proposed Cottonwood Greens project is a residential project located west of CR 31 and north of 9th Street. The project site plan was depicted on Figure 2. The project is planned on approximately 153 acres. As shown on the figure, vehicular access to the project will be from CR 31 (one location), 9th Street (three locations), and a connection with the future 14th Street. The primary north-south project roadway is the extension of College Avenue. The project will be developed with 404 single family and 137 townhomes. The transportation characteristics of the site include a curvilinear grid roadway layout, a pedestrian/bicycle trail that allows for future connections to the Main Fulton Ditch Trail and the Fort Lupton Trail.

PROJECT TRIP GENERATION

The trip generation characteristics of the project were estimated using data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th Edition. It should be noted that this is an update from the October 7, 2019, study which used the 10th edition trip generation rates. Table 4 provides the trip generation estimated for the project. As indicated in the table, the full buildout of the project is estimated to generate approximately 4,600 daily trips, 330 morning, and 450 evening peak hour trips.

PROJECT TRIP DISTRIBUTION | ASSIGNMENT

The distribution of the project traffic onto the roadway system was based on: the existing peak hour traffic counts, the roadway network, the adjacent land use, the location of the project within the region and the City of Fort Lupton, traffic forecasts from the *Transportation Plan,* and input from the City engineer. The project trip distribution is depicted on Figure 5.

The project assigned peak hour traffic volumes are shown on Figure 6. The City of Fort Lupton has within their *Transportation Plan* the extension of CR 31 south of SH 52 to CR 8. The projected traffic volumes on Figure 6 were modified at CR 31 and SH 52 to reflect this connection. The future year 2040 peak hour traffic volumes for this location are provided in Figure 7.

Table 4 – Estimated Trip Generation

ITE Land Use Code & Rates		Project	Project Trip Generation						
Land Use	Land Use Code	Dwelling Units	Daily	AM			PM		
				IN	Out	Total	IN	Out	Total
Cottonwood Single-Family Detached	210	404	3646	69	196	265	233	137	369
Multi-Family Low Rise	220	137	953	16	50	65	50	29	79
TOTAL BUILDOUT			4,599	85	246	331	283	166	449

Based on ITE Trip Generation 11th Edition

Figure 5 – Trip Distribution

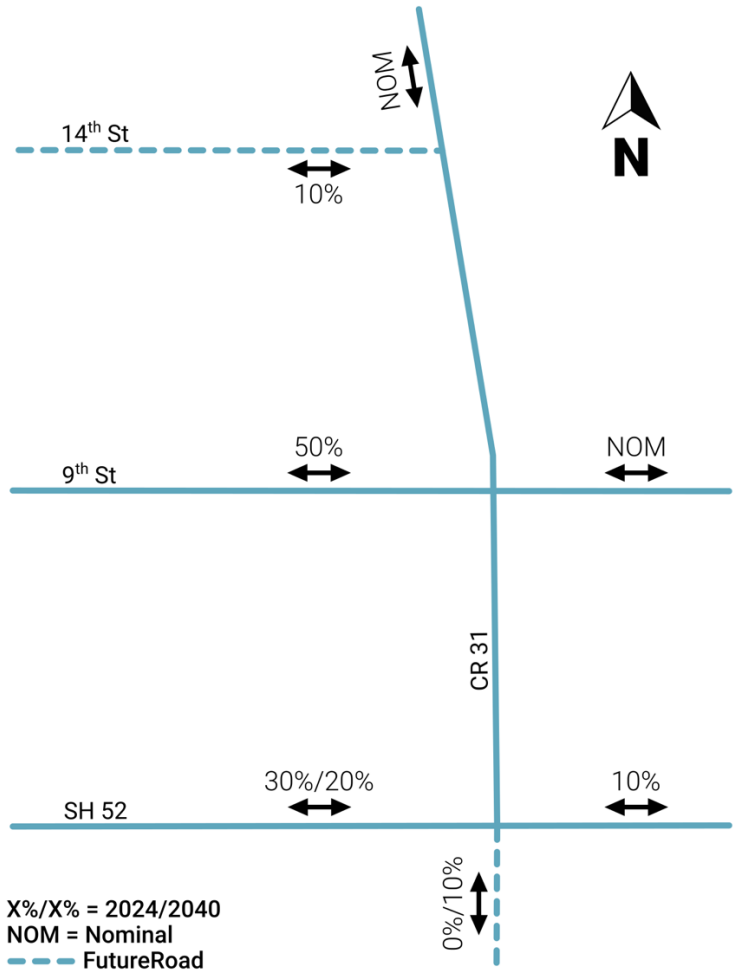
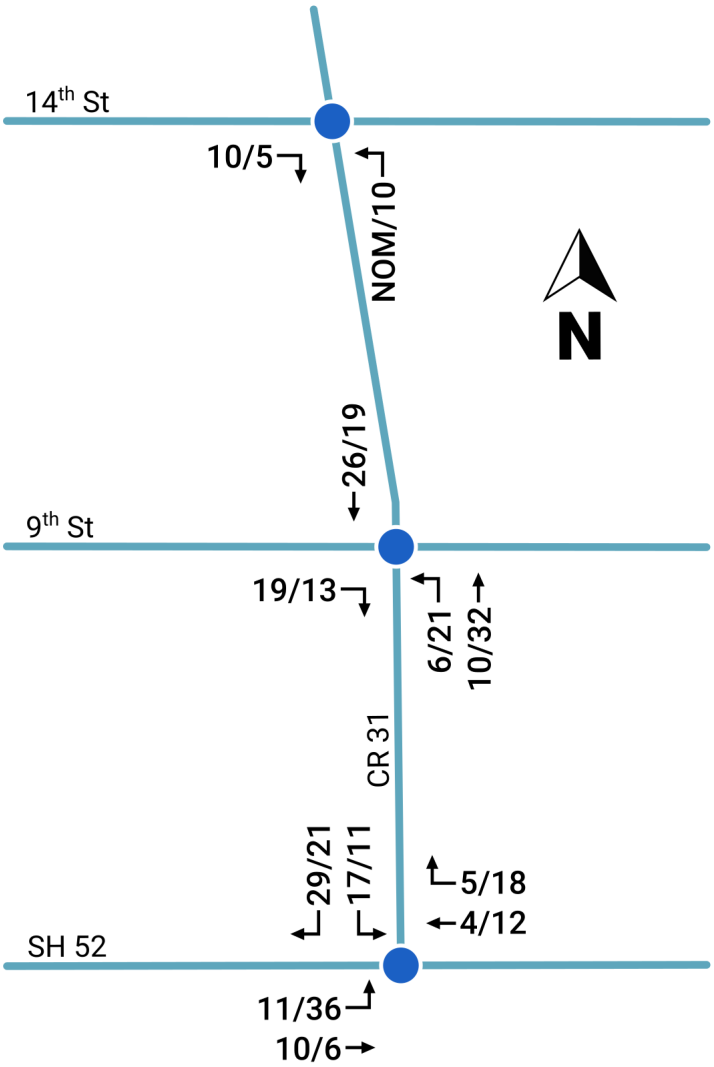


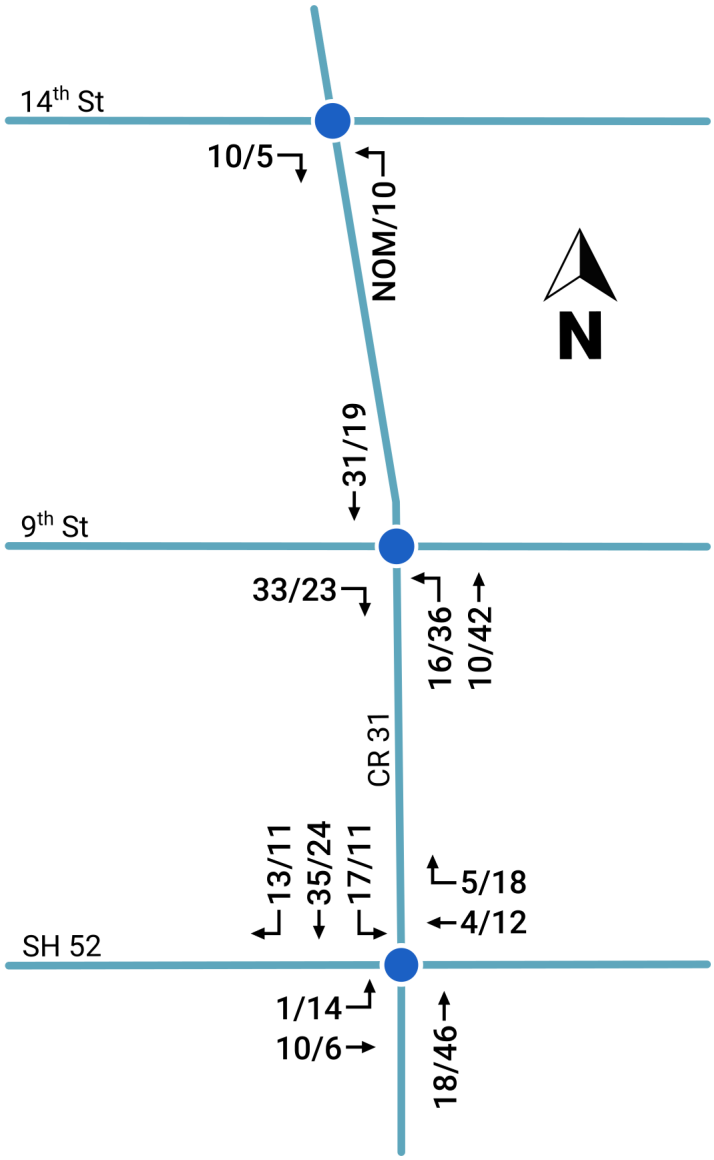
Figure 6 – Project Traffic - 2027



AM/PM Peak Hour Turning Movements

NOM = Nominal

Figure 7 – Project Traffic - 2040



AM/PM Peak Hour Turning Movements

NOM = Nominal

4 FUTURE TRAFFIC PROJECTIONS

Estimates of future traffic conditions both with and without the proposed Project were necessary to evaluate the potential impact of the Project on the local street system. The background base traffic scenario represents future traffic conditions without the addition of the Project, while the total scenario represents future traffic conditions with completion of the proposed Project. Two future years were analyzed Year 2027 and Year 2040. The development of these future traffic scenarios is described in this chapter.

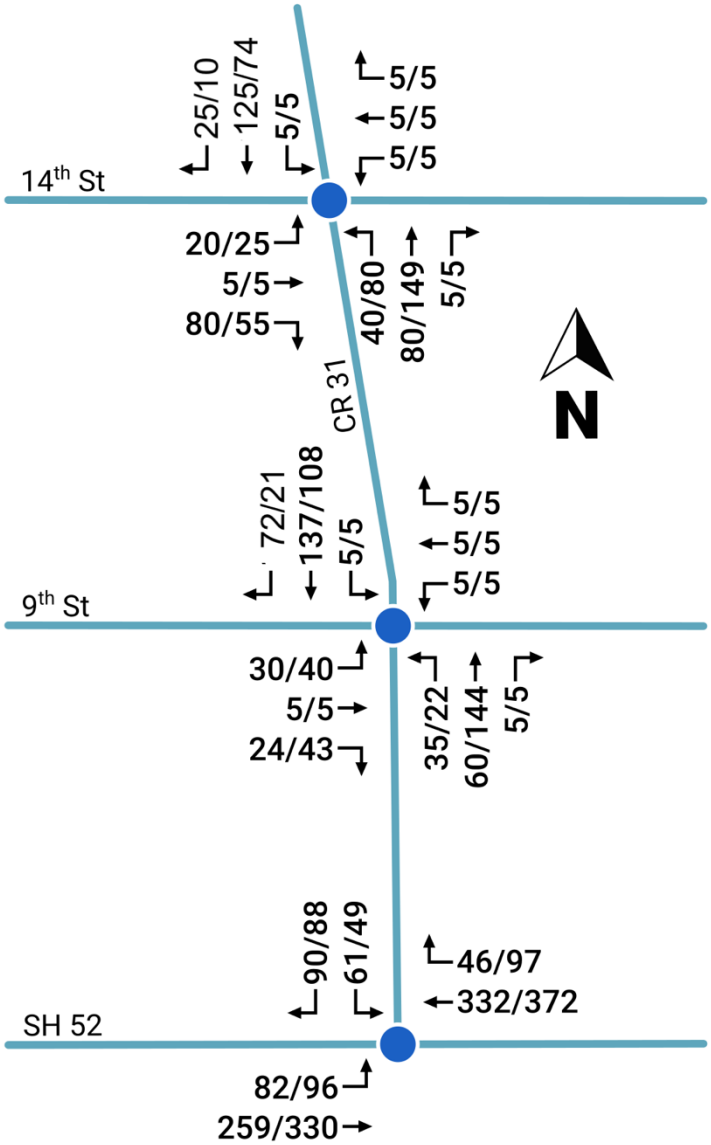
BACKGROUND 2027 TRAFFIC PROJECTIONS

The background traffic projections reflect growth in traffic from two primary sources: ambient growth in the existing traffic volumes due to regional growth both in and outside of the study area, and traffic generated by potential projects. The City requested that a project similar in size to the proposed Cottonwood Greens project be assumed for the land directly north of the project site. Additionally, the City anticipates two roadway improvements: 14th Street will be constructed to CR 31 by 2027, and College Avenue will be paved and improved between 9th Street and SH 52. Each of these elements is described below.

- The **ambient growth** in traffic was determined with information from the *Fort Lupton Transportation Plan,* June 2018. Based on these projections an annual straight-line growth rate of 1.7% per year was established for the short-range for each roadway except SH 52. It should be noted that the future projections were adjusted to account for traffic from the proposed project. This eliminates double counting the Project traffic which is already included in the future projections in the *Transportation Plan*. The growth rate for SH 52 was 3.4% per year. This value will be applied to the existing counts to determine the Year 2027 volumes due to regional growth.
- It was assumed that a project similar in size and use would be built on the land north of the Cottonwood Greens project. Access to/from this future project would be from 14th Street. Traffic was estimated and assigned to the roadway system to account for this potential project.
- Based on conversations with the City of Fort Lupton Public Works, 14th Street is expected to be built to CR 31 and College Avenue will be paved and improved between 9th Street and SH 52.

The resulting Background 2027 traffic projections for the study intersections are provided on Figure 8.

Figure 8 – Background Traffic 2027



AM/PM Peak Hour Turning Movements

BACKGROUND 2040 TRAFFIC PROJECTIONS

The traffic projections for 2040 were estimated using a similar methodology as for 2027. The City of Fort Lupton has plans for roadway improvements by Year 2040. Each of these components to the 2040 projections is discussed below.

- The **ambient growth** in traffic was based on the values developed for 2027. An annual straight-line growth of 1.7 % per year will be used for each roadway except for SH 52 which was 1% per year.
- Similar to 2027, it was assumed that a project similar in size and use would be built on the land north of the Cottonwood Greens project. Access to/from this future project would be from 14th Street. Traffic was estimated and assigned to the roadway system to account for this potential project.
- 14th Street was assumed to be built to CR 31 and College Avenue will be paved between 9th Street and SH 52.
- The City of Fort Lupton, *Transportation Plan* depicts CR 31 extended south of SH 52 to CR 8 by 2040.

The assumed intersection configurations for 2040 are illustrated on Figure 9. The resulting Background 2040 traffic projections for each of the study intersections are provided on Figure 10.

TOTAL TRAFFIC PROJECTIONS

The total traffic projections include both the background plus project traffic. Total traffic projections were developed for Years 2027 and 2040. The project-generated traffic volumes from Figure 7 were added to the Year 2027 background traffic volumes illustrated on Figure 9 to develop background plus project peak hour traffic volumes. The resulting Year 2027 total traffic is depicted on Figure 11.

The Year 2040 Total traffic projections were developed by adding the Project traffic from Figure 8 to the Year 2040 Background traffic from Figure 10. The resulting Year 2040 total traffic is illustrated on Figure 12.

INTERNAL SITE TRAFFIC

The Project site was designed to accommodate the traffic generated by the project. The City of Fort Lupton, within Chapter 6 of the *Standards and Specifications for the Design and Construction of Public Improvements,* has established that Local streets can accommodate up to 2,500 daily vehicular trips. It was estimated that the Local streets within Cottonwood Greens will accommodate between 700 and 1,500 daily trips at locations near their intersections with public roadways. The design of the internal streets as Locals is therefore appropriate. It should be noted that College Avenue is designed as a Collector Street.

Figure 9 – Lane Configurations 2040

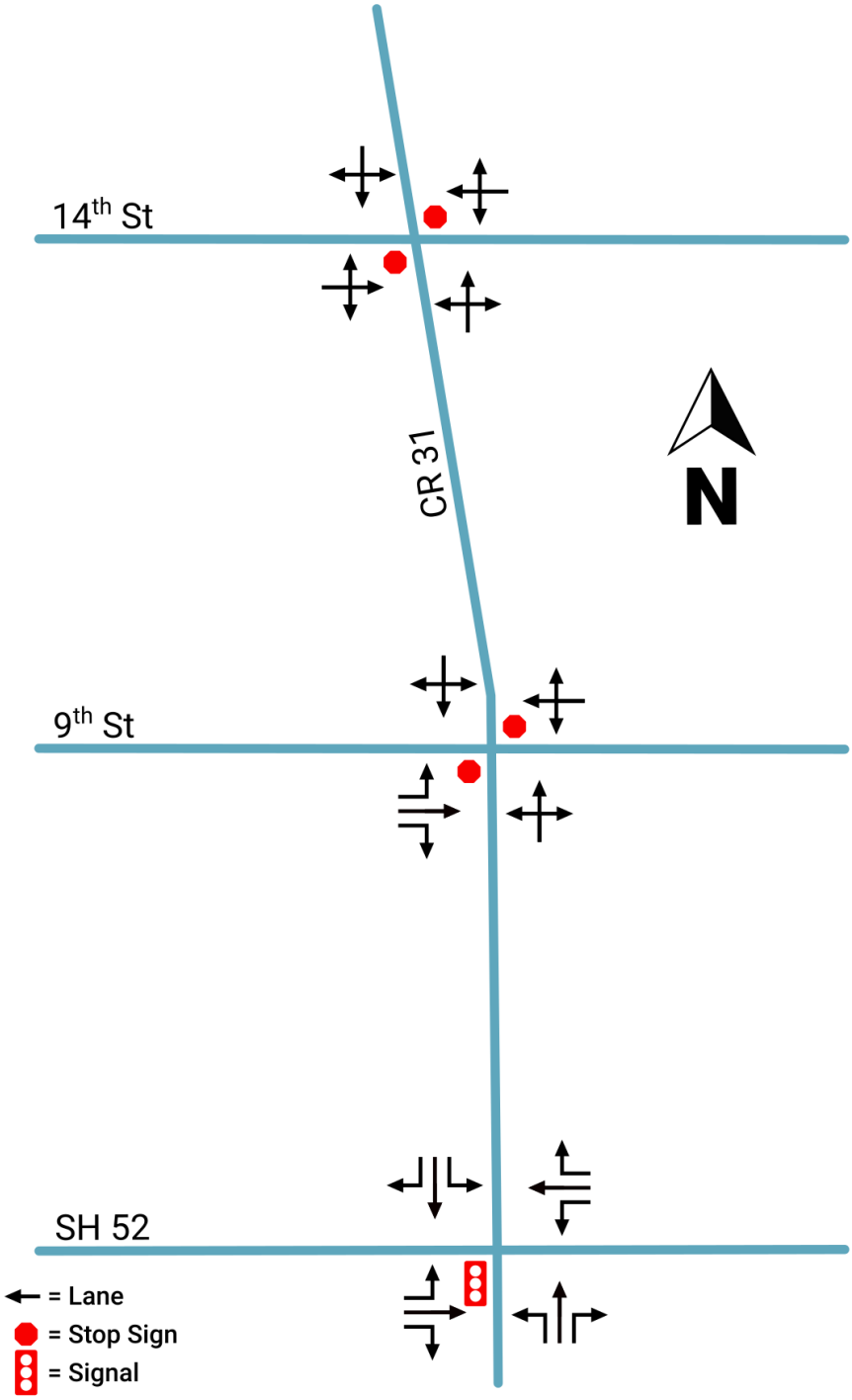
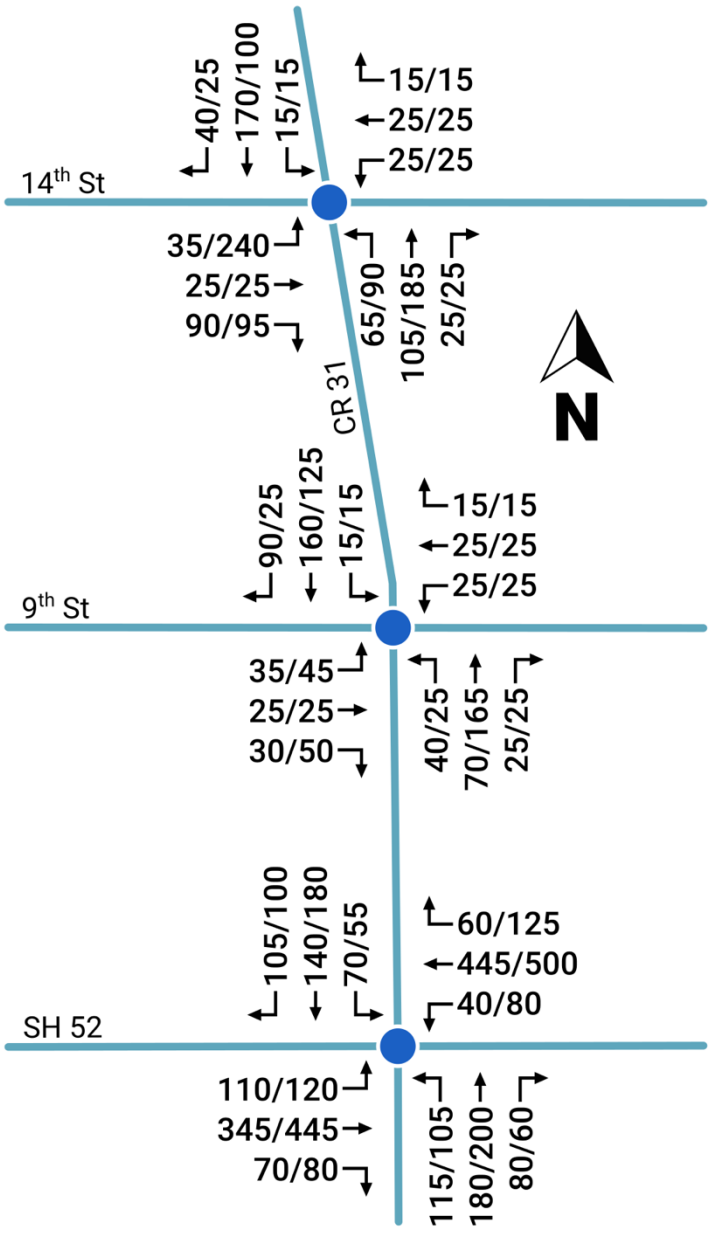
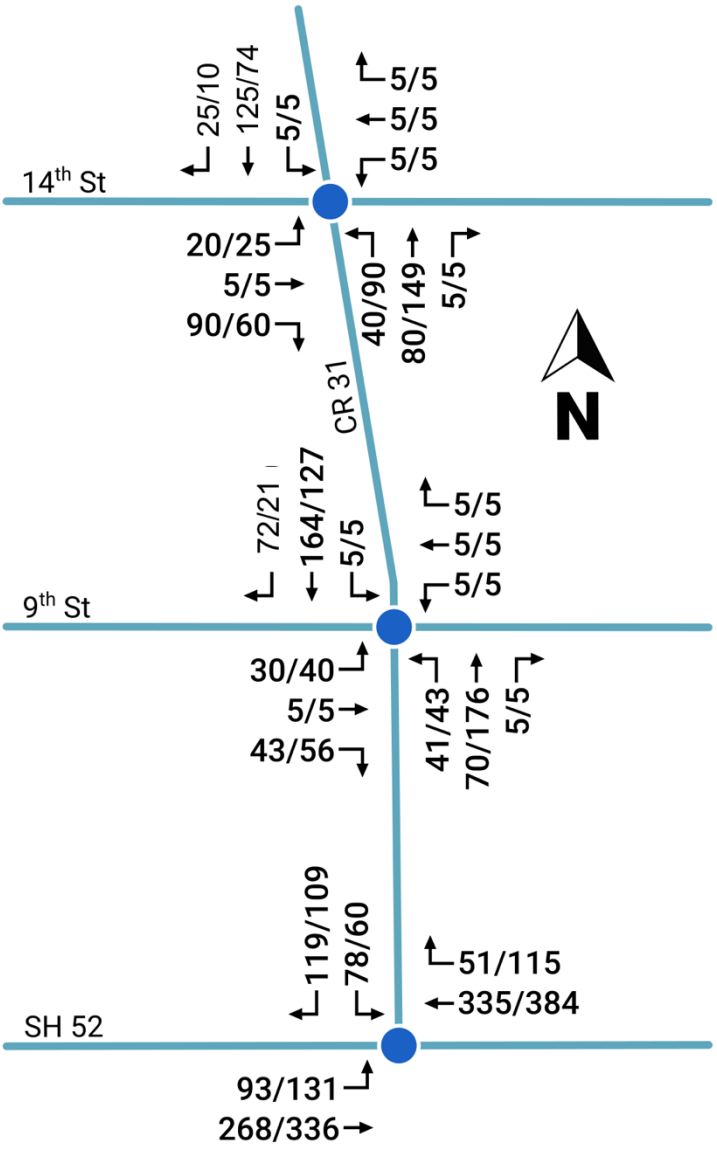


Figure 10 – Background Traffic 2040



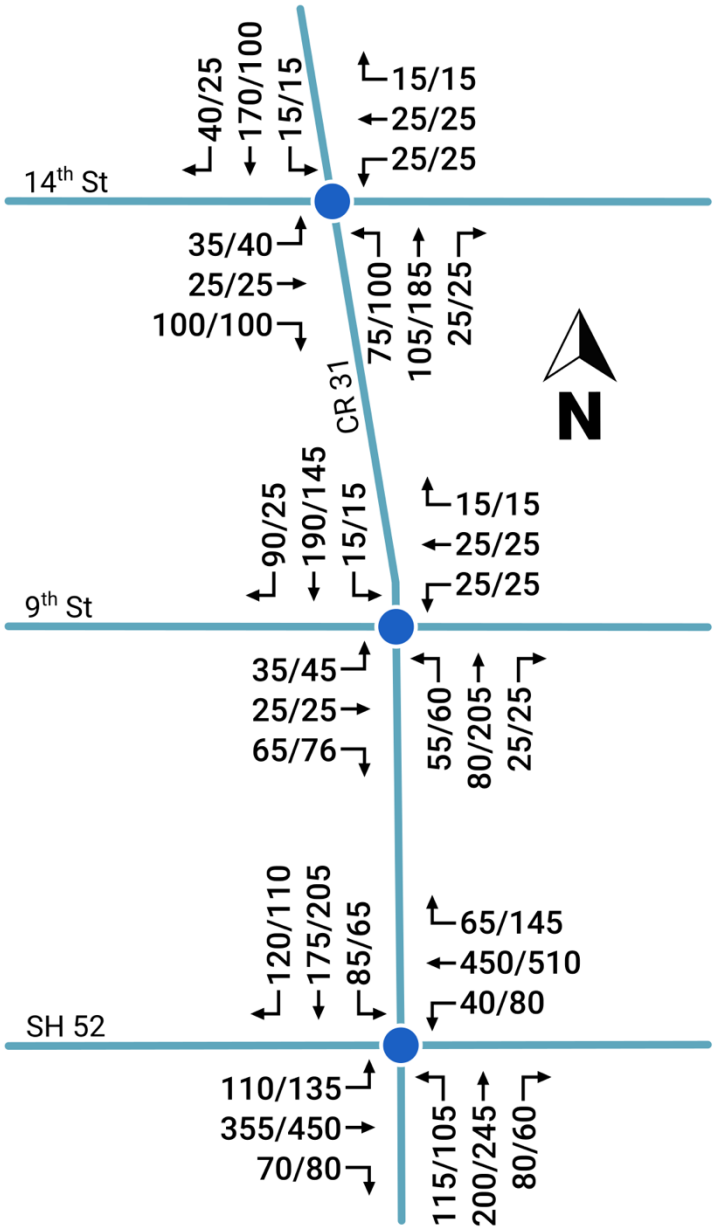
AM/PM Peak Hour Turning Movements

Figure 11 – Total Traffic 2027



AM/PM Peak Hour Turning Movements

Figure 12 – Total Traffic 2040



AM/PM Peak Hour Turning Movements

Volumes Rounded to Nearest 5 Vehicles

5 TRAFFIC IMPACT ANALYSIS

This chapter presents an analysis of the potential impacts of the traffic generated by the proposed Cottonwood Greens project on the local street system. The analysis compares the projected levels of service at each study intersection under future background and total conditions to estimate the incremental increase in the delay caused by the proposed project. This provides the information needed to assess the potential impact of the project using the significance criteria.

SIGNIFICANT TRAFFIC IMPACT CRITERIA

Threshold criteria were applied to determine if the growth in traffic due to regional growth/other projects and/or the proposed Project has a significant traffic impact at an intersection. If the future traffic projections for either Background (without Project) or Total (with Project) resulted in any portion of an intersection exceeding the LOS standards, this would be considered an impact.

As presented earlier, based on the City of Fort Lupton standards, LOS C is the design objective for all movements at an intersection. Level of service less than D is unacceptable.

FUTURE TRAFFIC CONDITIONS

The future traffic projections at the three study intersections were analyzed to determine their future operating conditions. The results for Year 2027 are provided in Table 5 for both the background and total traffic scenarios. The future operating conditions for Year 2040 are provided in Table 6.

It should be noted that under 2040 conditions, the intersection of CR 31 and SH 52 was projected to have peak hour volumes that would warrant signalization. The operational analysis for this location was performed assuming it was signalized. The need for a traffic signal is documented in the Federal Highways Administration, *Manual On Uniform Traffic Control Devices* (MUTCD), 2009. The Peak Hour - Warrant 3 is provided in Appendix C.

Note that the results provided in Tables 5 and 6 indicate both the overall LOS for the intersection and the LOS for each constrained movement and/or leg. If an intersection, a movement, or leg is projected to operate at unacceptable levels it is highlighted in grey.

Table 5 Future 2027 Intersection Level of Service

#	Intersection	Movement	AM Peak Hr		PM Peak Hr	
			Background	Total	Background	Total
1	CR 31 & SH 52 T Stop Control	Overall	A	A	A	A
		EB LT	A	A	A	A
		SB	C	C	C	C
2	CR 31 & 9th Street Two Way Stop Control	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB LT	B	B	B	B
		EB T	B	B	B	B
		EB RT	A	A	A	A
		WB	B	B	B	B
		SB LT	A	A	A	A
3	CR 31 & 14th Street (To be Built) Two Way Stop Control	Overall	A	A	A	A
		NB	A	A	A	A
		EB	B	B	B	B
		WB	B	B	B	B
		SB	A	A	A	A

Notes:

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement or approach.

Table 6 Future 2040 Intersection Level of Service

#	Intersection	Movement	AM Peak Hr		PM Peak Hr	
			Background	Total	Background	Total
1	CR 31 & SH 52 Signalized	Overall	B	B	B	B
		EB LT	B	B	B	B
		EB T	A	B	B	B
		EB RT	A	A	A	A
		WB LT	B	B	B	B
		WB T	C	C	C	C
		WB RT	B	B	B	B
		NB LT	B	B	C	C
		NB T	B	B	B	C
		NB RT	B	B	B	C
		SB LT	B	B	B	B
		SB T	B	B	B	B
		SB RT	B	B	B	B
2	CR 31 & 9th Street Two Way Stop Control	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB LT	B	B	B	C
		EB T	B	B	B	B
		EB RT	A	B	A	A
		WB	B	B	B	C
		SB LT	A	A	A	A
3	CR 31 & 14th Street (To be Built) Two Way Stop Control	Overall	A	A	A	A
		NB	A	A	A	A
		EB	B	B	B	B
		WB	B	C	C	C
		SB	A	A	A	A

Notes:

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement, lane group (signalized), or approach.

The analysis indicates that the future intersection operations for both years 2027 and 2040 will operate acceptably. For the intersection of CR 31 at SH 52 signalization was assumed for the year 2040. The Total 2040 traffic volume projections (for the AM plus PM peak hours) were evaluated to determine the relative percentage of Project and Background volumes. These are shown on Table 8.

Table 8 - 2040 Percent Contribution

#	Intersection	Total Volumes (AM + PM)	Background		Project	
			Volume	Percent	Volume	Percent
1	CR 31 & SH 52 Signalized	4055	3810	94%	245	6%

6 AUXILIARY LANE ANALYSIS

An analysis was conducted to determine the need for auxiliary right-turn and left-turn lanes at the Project access locations. This analysis was performed for both 2027 and 2040. The projected peak hour traffic volumes at these locations are provided in Appendix D for both 2027 and 2040. The turning volumes were analyzed based on the guidelines set forth in the Transportation Research Board's *NCHRP Report 279*, 1985 provided in Appendix D.

Using the figures shown in Appendix D, it was determined that no auxiliary lanes are warranted under both future scenarios, years 2027 and 2040.

7 CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed Cottonwood Greens PUD project in the City of Fort Lupton. The following summarizes the results of this analysis:

- The full buildout proposed Project consists of 404 single family homes and 137 townhomes.
- The Project site is located north of 9th Street and west of CR 31 on undeveloped land.
- The Project is expected to generate approximately 4,600 daily trips, 330 morning, and 450 evening peak hour trips.
- Currently, the study intersections on CR 31 at both SH 52 and 9th Street are operating at acceptable levels.
- For 2027 it was assumed that 14th Street would connect from its' current terminus east to CR 31 and College Avenue would be paved between 9th Street to SH 52.
- Under the future 2027 conditions, the study intersections are projected to operate acceptably.
- Under the future 2040 conditions, it was assumed that CR 31 would be extended south of SH 52 and be signalized. The future intersection operations at the study intersections are projected to operate acceptably.

APPENDICIES

- Appendix A: Intersection Turning Movement Count Data (October 11, 2018)
- Appendix B: HCM LOS Calculation Outputs
- Appendix C: Figure and Table 4C-3 Manual on Uniform Traffic Control Devices
- Appendix D: Project Access 2027 and 2040 Volumes and NCHRP Report 279

Appendix A
Intersection Turning Movement Count Data (April 24, 2019)

Location: WCR 31 N/O 9TH ST
Date Range: 4/24/2019 - 4/30/2019
Site Code: 01

	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday					
	4/24/2019			4/25/2019			4/26/2019			4/27/2019			4/28/2019			4/29/2019			4/30/2019			Mid-Week Average		
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
1:00 AM	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8
2:00 AM	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	6
3:00 AM	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	4
4:00 AM	7	9	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	9	16
5:00 AM	35	39	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	39	74
6:00 AM	57	50	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	50	107
7:00 AM	67	149	216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	149	216
8:00 AM	52	75	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	75	127
9:00 AM	40	59	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	59	99
10:00 AM	65	67	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	67	132
11:00 AM	81	74	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	74	155
12:00 PM	73	82	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	82	155
1:00 PM	72	54	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	54	126
2:00 PM	88	93	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	93	181
3:00 PM	118	67	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	67	185
4:00 PM	129	86	215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	86	215
5:00 PM	118	90	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	90	208
6:00 PM	110	68	178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	68	178
7:00 PM	81	46	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	46	127
8:00 PM	53	43	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	43	96
9:00 PM	32	14	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	14	46
10:00 PM	21	6	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	6	27
11:00 PM	7	2	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	9
Total	**1,316**	**1,185**	**2,501**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,316**	**1,185**	**2,501**
Percent	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**53%**	**47%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: 9TH ST W/O WCR 31
Date Range: 4/24/2019 - 4/30/2019
Site Code: 02

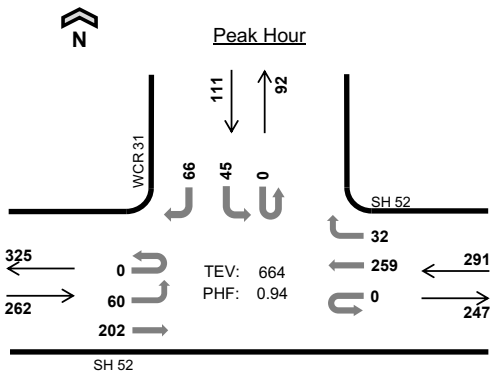
	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday					
	4/24/2019			4/25/2019			4/26/2019			4/27/2019			4/28/2019			4/29/2019			4/30/2019			Mid-Week Average		
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
1:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
2:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
3:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
4:00 AM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
5:00 AM	28	8	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	8	36
6:00 AM	37	18	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	18	55
7:00 AM	44	86	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	86	130
8:00 AM	28	46	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	46	74
9:00 AM	37	46	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	46	83
10:00 AM	45	41	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	41	86
11:00 AM	52	35	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	35	87
12:00 PM	44	32	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	32	76
1:00 PM	32	41	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	41	73
2:00 PM	50	52	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	52	102
3:00 PM	66	41	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	41	107
4:00 PM	67	34	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	34	101
5:00 PM	40	41	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	41	81
6:00 PM	28	34	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	34	62
7:00 PM	19	19	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	19	38
8:00 PM	13	11	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	11	24
9:00 PM	6	8	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8	14
10:00 PM	14	4	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	18
11:00 PM	3	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5
Total	**659**	**603**	**1,262**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**659**	**603**	**1,262**
Percent	**52%**	**48%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**52%**	**48%**	-

1. Mid-week average includes data between Tuesday and Thursday.

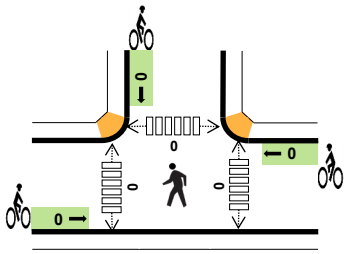
Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

www.idaxdata.com TMC1

WCR 31
SH 52



Date: Wed, Apr 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	11.1%	0.85
WB	15.8%	0.93
NB	-	-
SB	5.4%	0.79
TOTAL	12.2%	0.94

Two-Hour Count Summaries

Interval Start	SH 52 Eastbound				SH 52 Westbound				0 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	5	51	0	0	0	56	11	0	0	0	0	0	14	0	9	146	0
7:15 AM	**0**	**11**	**49**	**0**	**0**	**0**	**71**	**4**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**14**	**160**	0
7:30 AM	**0**	**6**	**49**	**0**	**0**	**0**	**66**	**12**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**23**	**168**	0
7:45 AM	**0**	**21**	**49**	**0**	**0**	**0**	**67**	**6**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**20**	**176**	650
8:00 AM	**0**	**22**	**55**	**0**	**0**	**0**	**55**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**9**	**160**	**664**
8:15 AM	0	11	31	0	0	0	59	5	0	0	0	0	0	9	0	14	129	633
8:30 AM	0	10	44	0	0	0	62	7	0	0	0	0	0	5	0	12	140	605
8:45 AM	0	10	50	0	0	0	49	7	0	0	0	0	0	5	0	13	134	563
Count Total	0	96	378	0	0	0	485	62	0	0	0	0	0	78	0	114	1,213	0
Peak Hour	**0**	**60**	**202**	**0**	**0**	**0**	**259**	**32**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**66**	**664**	**0**

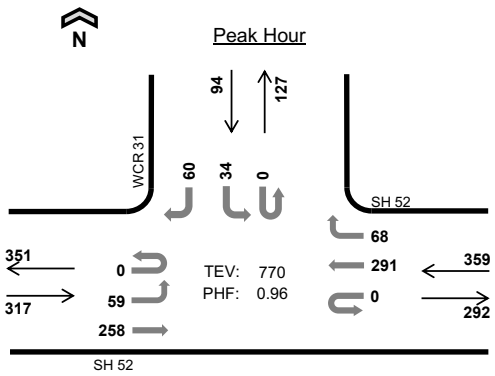
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

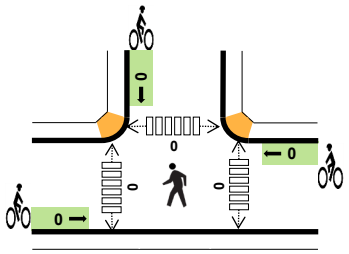
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	7	13	0	2	*22*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**8**	**7**	**0**	**0**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**4**	**12**	**0**	**1**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**11**	**10**	**0**	**4**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**6**	**17**	**0**	**1**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	5	9	0	1	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	17	7	0	2	*26*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	10	8	0	1	*19*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	68	83	0	12	*163*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**29**	**46**	**0**	**6**	***81***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

www.idaxdata.com TMC1

WCR 31
SH 52





Date: Wed, Apr 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

	HV %:	PHF
EB	7.6%	0.89
WB	7.0%	0.99
NB	-	-
SB	1.1%	0.78
TOTAL	6.5%	0.96

Two-Hour Count Summaries

Interval Start	SH 52 Eastbound				SH 52 Westbound				0 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	21	59	0	0	0	60	9	0	0	0	0	0	10	0	18	177	0
4:15 PM	0	12	72	0	0	0	49	13	0	0	0	0	0	7	0	17	170	0
4:30 PM	0	15	71	0	0	0	52	13	0	0	0	0	0	10	0	19	180	0
4:45 PM	0	23	64	0	0	0	57	11	0	0	0	0	0	10	0	22	187	714
5:00 PM	**0**	**18**	**71**	**0**	**0**	**0**	**79**	**12**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**10**	**200**	737
5:15 PM	**0**	**17**	**62**	**0**	**0**	**0**	**73**	**16**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**15**	**191**	758
5:30 PM	**0**	**10**	**60**	**0**	**0**	**0**	**71**	**19**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**21**	**190**	768
5:45 PM	**0**	**14**	**65**	**0**	**0**	**0**	**68**	**21**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**14**	**189**	**770**
Count Total	0	130	524	0	0	0	509	114	0	0	0	0	0	71	0	136	1,484	0
Peak Hour	**0**	**59**	**258**	**0**	**0**	**0**	**291**	**68**	**0**	**0**	**0**	**0**	**0**	**34**	**0**	**60**	**770**	**0**

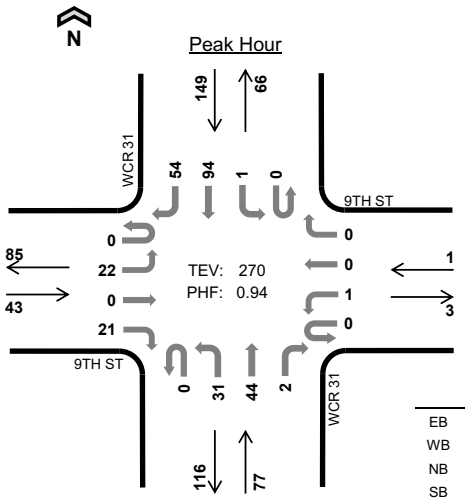
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	8	4	0	1	*13*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	11	5	0	2	*18*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	6	9	0	0	*15*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	3	5	0	2	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	**8**	**10**	**0**	**0**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**6**	**4**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**4**	**3**	**0**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**6**	**8**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	52	48	0	6	*106*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**24**	**25**	**0**	**1**	***50***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

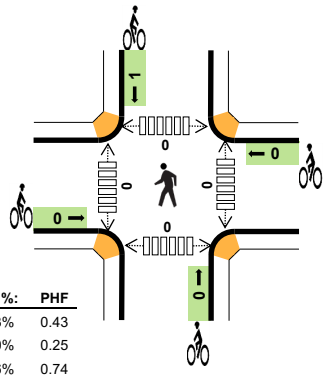
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

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WCR 31
9TH ST



Date: Wed, Apr 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	2.3%	0.43
WB	0.0%	0.25
NB	2.6%	0.74
SB	7.4%	0.89
TOTAL	5.2%	0.94

Two-Hour Count Summaries

Interval Start	9TH ST Eastbound				9TH ST Westbound				WCR 31 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**7**	**8**	**1**	**0**	**0**	**19**	**18**	**58**	0
7:15 AM	**0**	**16**	**0**	**9**	**0**	**1**	**0**	**0**	**0**	**5**	**10**	**0**	**0**	**0**	**15**	**16**	**72**	0
7:30 AM	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**9**	**11**	**0**	**0**	**1**	**31**	**10**	**68**	0
7:45 AM	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**10**	**15**	**1**	**0**	**0**	**29**	**10**	**72**	**270**
8:00 AM	0	1	1	1	0	1	0	0	0	11	19	0	0	0	16	2	52	264
8:15 AM	0	4	0	7	0	1	0	0	0	9	7	3	0	0	14	2	47	239
8:30 AM	0	2	1	3	0	0	0	2	0	4	9	0	0	2	15	6	44	215
8:45 AM	0	0	0	6	0	0	0	0	0	9	10	2	0	1	12	4	44	187
Count Total	0	29	2	38	0	3	0	2	0	64	89	7	0	4	151	68	457	0
Peak Hour	**0**	**22**	**0**	**21**	**0**	**1**	**0**	**0**	**0**	**31**	**44**	**2**	**0**	**1**	**94**	**54**	**270**	**0**

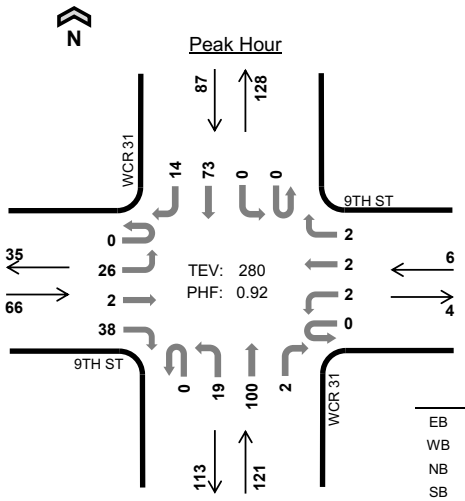
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**4**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	4	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	1	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	1	1	10	16	*28*	0	0	0	1	*1*	0	0	0	0	*0*
Peak Hour	**1**	**0**	**2**	**11**	***14***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***

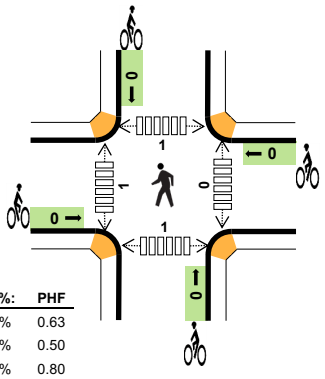
Nathan Warren: (720) 646-1008 nathan.warren@idaxdata.com

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WCR 31
9TH ST



Date: Wed, Apr 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	3.0%	0.63
WB	0.0%	0.50
NB	4.1%	0.80
SB	6.9%	0.91
TOTAL	4.6%	0.92

Two-Hour Count Summaries

Interval Start	9TH ST Eastbound				9TH ST Westbound				WCR 31 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**5**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**26**	**0**	**0**	**0**	**19**	**5**	**68**	0
4:15 PM	**0**	**6**	**1**	**10**	**0**	**0**	**1**	**1**	**0**	**5**	**21**	**0**	**0**	**0**	**14**	**4**	**63**	0
4:30 PM	**0**	**13**	**0**	**13**	**0**	**1**	**1**	**1**	**0**	**5**	**19**	**2**	**0**	**0**	**16**	**5**	**76**	0
4:45 PM	**0**	**2**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**4**	**34**	**0**	**0**	**0**	**24**	**0**	**73**	**280**
5:00 PM	0	5	0	7	0	1	0	0	0	4	25	0	0	0	12	4	58	270
5:15 PM	0	3	0	5	0	1	0	0	0	5	26	0	0	0	19	7	66	273
5:30 PM	0	6	0	6	0	0	0	1	0	8	21	0	0	0	22	6	70	267
5:45 PM	0	2	2	2	0	0	0	0	0	7	30	0	0	0	19	1	63	257
Count Total	0	42	4	58	0	4	2	3	0	43	202	2	0	0	145	32	537	0
Peak Hour	**0**	**26**	**2**	**38**	**0**	**2**	**2**	**2**	**0**	**19**	**100**	**2**	**0**	**0**	**73**	**14**	**280**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**0**	**3**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
4:45 PM	**1**	**0**	**2**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
5:00 PM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	6	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	0	14	7	*23*	0	0	0	0	*0*	0	1	1	1	*3*
Peak Hour	**2**	**0**	**5**	**6**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	***3***

Nathan Warren: (720) 646-1008 nathan.warren@idaxdata.com

Appendix B
Level of Service Worksheets

EXISTING

HCM 6th TWSC
1: SH 52 & CR 31 05/02/2019

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	202	259	32	45	66
Future Vol, veh/h	60	202	259	32	45	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	220	282	35	49	72

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	317	0	-	0	632	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1243	-	-	-	444	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1243	-	-	-	421	757
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1243	-	-	-	572
HCM Lane V/C Ratio	0.052	-	-	-	0.211
HCM Control Delay (s)	8.1	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

HCM 6th TWSC
1: SH 52 & CR 31 05/02/2019

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	59	258	291	68	34	60
Future Vol, veh/h	59	258	291	68	34	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	280	316	74	37	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	390	0	-	0	724	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1169	-	-	-	393	724
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1169	-	-	-	371	724
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1169	-	-	-	539
HCM Lane V/C Ratio	0.055	-	-	-	0.19
HCM Control Delay (s)	8.3	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7

HCM 6th TWSC
2: CR 31 & 9th Street 05/01/2019

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	0	21	1	0	0	31	44	2	1	94	54
Future Vol, veh/h	22	0	21	1	0	0	31	44	2	1	94	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage,#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	23	1	0	0	34	48	2	1	102	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	251	252	132	262	280	49	161	0	0	50	0	0
Stage 1	134	134	-	117	117	-	-	-	-	-	-	-
Stage 2	117	118	-	145	163	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	702	651	917	691	628	1020	1418	-	-	1557	-	-
Stage 1	869	785	-	888	799	-	-	-	-	-	-	-
Stage 2	888	798	-	858	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	688	634	917	661	612	1020	1418	-	-	1557	-	-
Mov Cap-2 Maneuver	688	634	-	661	612	-	-	-	-	-	-	-
Stage 1	847	784	-	866	779	-	-	-	-	-	-	-
Stage 2	866	778	-	836	762	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	10.5	3.1	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	688	-	917	661	1557	-	-
HCM Lane V/C Ratio	0.024	-	-	0.035	-	0.025	0.002	0.001	-	-
HCM Control Delay (s)	7.6	0	-	10.4	0	9	10.5	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0.1	0	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 05/01/2019

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	2	38	2	2	2	19	100	2	0	73	14
Future Vol, veh/h	26	2	38	2	2	2	19	100	2	0	73	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage,#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	2	41	2	2	2	21	109	2	0	79	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	241	240	87	260	246	110	94	0	0	111	0	0
Stage 1	87	87	-	152	152	-	-	-	-	-	-	-
Stage 2	154	153	-	108	94	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	713	661	971	693	656	943	1500	-	-	1479	-	-
Stage 1	921	823	-	850	772	-	-	-	-	-	-	-
Stage 2	848	771	-	897	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	702	651	971	654	646	943	1500	-	-	1479	-	-
Mov Cap-2 Maneuver	702	651	-	654	646	-	-	-	-	-	-	-
Stage 1	907	823	-	837	760	-	-	-	-	-	-	-
Stage 2	831	759	-	857	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10	1.2	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	702	651	971	725	1479	-	-
HCM Lane V/C Ratio	0.014	-	-	0.04	0.003	0.043	0.009	-	-	-
HCM Control Delay (s)	7.4	0	-	10.3	10.5	8.9	10	0	-	-
HCM Lane LOS	A	A	-	B	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0	0	-	-

BACKGROUND 2027

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	82	259	332	46	61	90
Future Vol, veh/h	82	259	332	46	61	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	282	361	50	66	98

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	411	0	-	0	821	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	460	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1148	-	-	-	344	684
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1148	-	-	-	317	684
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1148	-	-	-	466
HCM Lane V/C Ratio	0.078	-	-	-	0.352
HCM Control Delay (s)	8.4	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.6

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	330	372	97	49	88
Future Vol, veh/h	96	330	372	97	49	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	359	404	105	53	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	509	0	-	0	971	404
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1056	-	-	-	280	647
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1056	-	-	-	253	647
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	416
HCM Lane V/C Ratio	0.099	-	-	-	0.358
HCM Control Delay (s)	8.8	-	-	-	18.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.6

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	2.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	24	5	5	5	35	60	5	5	137	72
Future Vol, veh/h	30	5	24	5	5	5	35	60	5	5	137	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	5	26	5	5	5	38	65	5	5	149	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	347	344	188	358	381	68	227	0	0	70	0	0
Stage 1	198	198	-	144	144	-	-	-	-	-	-	-
Stage 2	149	146	-	214	237	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	607	579	854	597	552	995	1341	-	-	1531	-	-
Stage 1	804	737	-	859	778	-	-	-	-	-	-	-
Stage 2	854	776	-	788	709	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	583	559	854	559	533	995	1341	-	-	1531	-	-
Mov Cap-2 Maneuver	583	559	-	559	533	-	-	-	-	-	-	-
Stage 1	780	734	-	833	755	-	-	-	-	-	-	-
Stage 2	818	753	-	755	706	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.8	2.7	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	583	559	854	642	1531	-	-
HCM Lane V/C Ratio	0.028	-	-	0.056	0.01	0.031	0.025	0.004	-	-
HCM Control Delay (s)	7.8	0	-	11.5	11.5	9.3	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.1	0.1	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	5	43	5	5	5	22	144	5	5	108	21
Future Vol, veh/h	40	5	43	5	5	5	22	144	5	5	108	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	47	5	5	5	24	157	5	5	117	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	352	349	129	373	358	160	140	0	0	162	0	0
Stage 1	139	139	-	208	208	-	-	-	-	-	-	-
Stage 2	213	210	-	165	150	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	603	575	921	584	568	885	1443	-	-	1417	-	-
Stage 1	864	782	-	794	730	-	-	-	-	-	-	-
Stage 2	789	728	-	837	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	585	562	921	541	556	885	1443	-	-	1417	-	-
Mov Cap-2 Maneuver	585	562	-	541	556	-	-	-	-	-	-	-
Stage 1	848	779	-	780	717	-	-	-	-	-	-	-
Stage 2	764	715	-	786	770	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.9	1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1443	-	-	585	562	921	628	1417	-	-
HCM Lane V/C Ratio	0.017	-	-	0.074	0.01	0.051	0.026	0.004	-	-
HCM Control Delay (s)	7.5	0	-	11.6	11.5	9.1	10.9	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.2	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	5	80	5	5	5	40	80	5	5	125	25
Future Vol, veh/h	20	5	80	5	5	5	40	80	5	5	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	5	87	5	5	5	43	87	5	5	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	341	338	150	382	349	90	163	0	0	92	0	0
Stage 1	160	160	-	176	176	-	-	-	-	-	-	-
Stage 2	181	178	-	206	173	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	613	583	896	576	575	968	1416	-	-	1503	-	-
Stage 1	842	766	-	826	753	-	-	-	-	-	-	-
Stage 2	821	752	-	796	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	562	896	502	554	968	1416	-	-	1503	-	-
Mov Cap-2 Maneuver	588	562	-	502	554	-	-	-	-	-	-	-
Stage 1	815	763	-	800	729	-	-	-	-	-	-	-
Stage 2	784	728	-	711	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11	2.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	794	621	1503	-	-
HCM Lane V/C Ratio	0.031	-	-	0.144	0.026	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.3	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	55	5	5	5	80	149	5	5	74	10
Future Vol, veh/h	25	5	55	5	5	5	80	149	5	5	74	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	5	60	5	5	5	87	162	5	5	80	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	440	437	86	467	440	165	91	0	0	167	0	0
Stage 1	96	96	-	339	339	-	-	-	-	-	-	-
Stage 2	344	341	-	128	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	527	513	973	506	511	879	1504	-	-	1411	-	-
Stage 1	911	815	-	676	640	-	-	-	-	-	-	-
Stage 2	671	639	-	876	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	492	478	973	446	476	879	1504	-	-	1411	-	-
Mov Cap-2 Maneuver	492	478	-	446	476	-	-	-	-	-	-	-
Stage 1	853	812	-	633	599	-	-	-	-	-	-	-
Stage 2	619	598	-	813	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	11.8	2.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	722	547	1411	-	-
HCM Lane V/C Ratio	0.058	-	-	0.128	0.03	0.004	-	-
HCM Control Delay (s)	7.5	0	-	10.7	11.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.1	0	-	-

TOTAL 2027

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	93	268	335	51	78	119
Future Vol, veh/h	93	268	335	51	78	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	291	364	55	85	129

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	419	0	-	0	857	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	493	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1140	-	-	-	328	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	614	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1140	-	-	-	299	681
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	19.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1140	-	-	-	452
HCM Lane V/C Ratio	0.089	-	-	-	0.474
HCM Control Delay (s)	8.5	-	-	-	19.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.5

HCM 6th TWSC
1: SH 52 & CR 31 01/24/2022

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	131	336	384	115	60	109
Future Vol, veh/h	131	336	384	115	60	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	365	417	125	65	118

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	542	0	-	0	1066	417
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	649	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1027	-	-	-	246	636
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1027	-	-	-	212	636
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	520	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1027	-	-	-	372
HCM Lane V/C Ratio	0.139	-	-	-	0.494
HCM Control Delay (s)	9.1	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	2.6

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	43	5	5	5	41	70	5	5	164	72
Future Vol, veh/h	30	5	43	5	5	5	41	70	5	5	164	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	5	47	5	5	5	45	76	5	5	178	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	401	398	217	422	435	79	256	0	0	81	0	0
Stage 1	227	227	-	169	169	-	-	-	-	-	-	-
Stage 2	174	171	-	253	266	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	560	540	823	542	514	981	1309	-	-	1517	-	-
Stage 1	776	716	-	833	759	-	-	-	-	-	-	-
Stage 2	828	757	-	751	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	535	518	823	492	493	981	1309	-	-	1517	-	-
Mov Cap-2 Maneuver	535	518	-	492	493	-	-	-	-	-	-	-
Stage 1	748	713	-	803	732	-	-	-	-	-	-	-
Stage 2	788	730	-	700	686	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.3	2.8	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1309	-	-	535	518	823	591	1517	-	-
HCM Lane V/C Ratio	0.034	-	-	0.061	0.01	0.057	0.028	0.004	-	-
HCM Control Delay (s)	7.8	0	-	12.2	12	9.6	11.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.2	0.1	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	5	56	5	5	5	43	176	5	5	127	21
Future Vol, veh/h	40	5	56	5	5	5	43	176	5	5	127	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	61	5	5	5	47	191	5	5	138	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	453	450	150	481	459	194	161	0	0	196	0	0
Stage 1	160	160	-	288	288	-	-	-	-	-	-	-
Stage 2	293	290	-	193	171	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	517	504	896	495	499	847	1418	-	-	1377	-	-
Stage 1	842	766	-	720	674	-	-	-	-	-	-	-
Stage 2	715	672	-	809	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	493	483	896	443	479	847	1418	-	-	1377	-	-
Mov Cap-2 Maneuver	493	483	-	443	479	-	-	-	-	-	-	-
Stage 1	811	763	-	693	649	-	-	-	-	-	-	-
Stage 2	678	647	-	746	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	11.8	1.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	493	483	896	543	1377	-	-
HCM Lane V/C Ratio	0.033	-	-	0.088	0.011	0.068	0.03	0.004	-	-
HCM Control Delay (s)	7.6	0	-	13	12.5	9.3	11.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0.2	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	5	90	5	5	5	40	80	5	5	125	25
Future Vol, veh/h	20	5	90	5	5	5	40	80	5	5	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	5	98	5	5	5	43	87	5	5	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	341	338	150	387	349	90	163	0	0	92	0	0
Stage 1	160	160	-	176	176	-	-	-	-	-	-	-
Stage 2	181	178	-	211	173	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	613	583	896	572	575	968	1416	-	-	1503	-	-
Stage 1	842	766	-	826	753	-	-	-	-	-	-	-
Stage 2	821	752	-	791	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	562	896	492	554	968	1416	-	-	1503	-	-
Mov Cap-2 Maneuver	588	562	-	492	554	-	-	-	-	-	-	-
Stage 1	815	763	-	800	729	-	-	-	-	-	-	-
Stage 2	784	728	-	697	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11	2.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	802	616	1503	-	-
HCM Lane V/C Ratio	0.031	-	-	0.156	0.026	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.3	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	60	5	5	5	90	149	5	5	74	10
Future Vol, veh/h	25	5	60	5	5	5	90	149	5	5	74	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	5	65	5	5	5	98	162	5	5	80	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	462	459	86	492	462	165	91	0	0	167	0	0
Stage 1	96	96	-	361	361	-	-	-	-	-	-	-
Stage 2	366	363	-	131	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	510	499	973	487	497	879	1504	-	-	1411	-	-
Stage 1	911	815	-	657	626	-	-	-	-	-	-	-
Stage 2	653	625	-	873	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	473	461	973	424	459	879	1504	-	-	1411	-	-
Mov Cap-2 Maneuver	473	461	-	424	459	-	-	-	-	-	-	-
Stage 1	845	812	-	610	581	-	-	-	-	-	-	-
Stage 2	597	580	-	806	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12	2.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	718	529	1411	-	-
HCM Lane V/C Ratio	0.065	-	-	0.136	0.031	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.8	12	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.1	0	-	-

BACKGROUND 2040

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	345	70	40	445	60	115	180	80	70	140	105
Future Volume (veh/h)	110	345	70	40	445	60	115	180	80	70	140	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	375	76	43	484	65	125	196	87	76	152	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	893	757	431	586	497	464	657	557	439	657	557
Arrive On Green	0.08	0.48	0.48	0.31	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	940	1870	1585	1113	1870	1585	1096	1870	1585
Grp Volume(v), veh/h	120	375	76	43	484	65	125	196	87	76	152	114
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	940	1870	1585	1113	1870	1585	1096	1870	1585
Q Serve(g_s), s	2.2	6.9	1.4	1.7	12.6	1.5	4.7	4.0	2.0	2.8	3.0	2.6
Cycle Q Clear(g_c), s	2.2	6.9	1.4	1.7	12.6	1.5	7.7	4.0	2.0	6.8	3.0	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	893	757	431	586	497	464	657	557	439	657	557
V/C Ratio(X)	0.35	0.42	0.10	0.10	0.83	0.13	0.27	0.30	0.16	0.17	0.23	0.20
Avail Cap(c_a), veh/h	386	1155	979	538	800	678	464	657	557	439	657	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	9.0	7.5	13.0	16.7	12.9	14.8	12.4	11.7	14.8	12.0	11.9
Incr Delay (d2), s/veh	0.6	0.3	0.1	0.1	5.2	0.1	1.4	1.2	0.6	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.8	0.3	0.3	4.8	0.4	1.2	1.7	0.7	0.7	1.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	9.3	7.6	13.1	21.9	13.1	16.2	13.5	12.3	15.7	12.9	12.8
LnGrp LOS	B	A	A	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h		571			592			408			342	
Approach Delay, s/veh		9.7			20.3			14.1			13.5	
Approach LOS		A			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		23.0		29.6		23.0	8.6	21.0				
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5	5.5	22.5				
Max Q Clear Time (g_c+I1), s		9.7		8.9		8.8	4.2	14.6				
Green Ext Time (p_c), s		1.3		2.1		1.1	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Future Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	892	756	371	607	514	379	594	503	373	594	503
Arrive On Green	0.08	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Grp Volume(v), veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Q Serve(g_s), s	2.6	10.6	1.8	4.7	16.1	3.7	5.3	5.2	1.7	2.6	4.7	2.9
Cycle Q Clear(g_c), s	2.6	10.6	1.8	6.5	16.1	3.7	9.9	5.2	1.7	7.8	4.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	892	756	371	607	514	379	594	503	373	594	503
V/C Ratio(X)	0.44	0.54	0.12	0.23	0.90	0.26	0.30	0.37	0.13	0.16	0.33	0.22
Avail Cap(c_a), veh/h	313	946	802	387	642	544	379	594	503	373	594	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	10.8	8.4	16.2	18.8	14.6	19.0	15.4	14.2	18.4	15.2	14.6
Incr Delay (d2), s/veh	1.0	0.6	0.1	0.3	14.7	0.3	2.0	1.7	0.5	0.9	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.4	0.8	7.8	1.1	1.4	2.3	0.6	0.7	2.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	11.3	8.5	16.5	33.4	14.8	21.0	17.1	14.7	19.3	16.7	15.6
LnGrp LOS	B	B	A	B	C	B	C	B	B	B	B	B
Approach Vol, veh/h		701			766			396			365	
Approach Delay, s/veh		11.6			28.2			17.8			16.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		33.8		24.5	8.9	24.9				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		12.6		9.8	4.6	18.1				
Green Ext Time (p_c), s		1.1		2.6		1.1	0.0	0.8				

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	30	25	25	15	40	70	25	15	160	90
Future Vol, veh/h	35	25	30	25	25	15	40	70	25	15	160	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	33	27	27	16	43	76	27	16	174	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	452	444	223	461	480	90	272	0	0	103	0	0
Stage 1	255	255	-	176	176	-	-	-	-	-	-	-
Stage 2	197	189	-	285	304	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	518	508	817	511	485	968	1291	-	-	1489	-	-
Stage 1	749	696	-	826	753	-	-	-	-	-	-	-
Stage 2	805	744	-	722	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	469	484	817	453	462	968	1291	-	-	1489	-	-
Mov Cap-2 Maneuver	469	484	-	453	462	-	-	-	-	-	-	-
Stage 1	723	687	-	797	727	-	-	-	-	-	-	-
Stage 2	735	718	-	657	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	13	2.3	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	469	484	817	521	1489	-	-
HCM Lane V/C Ratio	0.034	-	-	0.081	0.056	0.04	0.136	0.011	-	-
HCM Control Delay (s)	7.9	0	-	13.4	12.9	9.6	13	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.1	0.5	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	25	50	25	25	15	25	165	25	15	125	25
Future Vol, veh/h	45	25	50	25	25	15	25	165	25	15	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	27	54	27	27	16	27	179	27	16	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	450	442	150	469	442	193	163	0	0	206	0	0
Stage 1	182	182	-	247	247	-	-	-	-	-	-	-
Stage 2	268	260	-	222	195	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	510	896	505	510	849	1416	-	-	1365	-	-
Stage 1	820	749	-	757	702	-	-	-	-	-	-	-
Stage 2	738	693	-	780	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	475	492	896	442	492	849	1416	-	-	1365	-	-
Mov Cap-2 Maneuver	475	492	-	442	492	-	-	-	-	-	-	-
Stage 1	802	739	-	740	687	-	-	-	-	-	-	-
Stage 2	680	678	-	697	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	13	0.9	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	475	492	896	520	1365	-	-
HCM Lane V/C Ratio	0.019	-	-	0.103	0.055	0.061	0.136	0.012	-	-
HCM Control Delay (s)	7.6	0	-	13.4	12.7	9.3	13	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.2	0.5	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	5.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	25	90	25	25	15	65	105	25	15	170	40
Future Vol, veh/h	35	25	90	25	25	15	65	105	25	15	170	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	98	27	27	16	71	114	27	16	185	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	530	522	207	571	530	128	228	0	0	141	0	0
Stage 1	239	239	-	270	270	-	-	-	-	-	-	-
Stage 2	291	283	-	301	260	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	459	833	432	455	922	1340	-	-	1442	-	-
Stage 1	764	708	-	736	686	-	-	-	-	-	-	-
Stage 2	717	677	-	708	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	407	427	833	343	423	922	1340	-	-	1442	-	-
Mov Cap-2 Maneuver	407	427	-	343	423	-	-	-	-	-	-	-
Stage 1	720	699	-	693	646	-	-	-	-	-	-	-
Stage 2	636	638	-	593	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	14.8	2.6	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1340	-	-	594	438	1442	-	-
HCM Lane V/C Ratio	0.053	-	-	0.274	0.161	0.011	-	-
HCM Control Delay (s)	7.8	0	-	13.3	14.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	6.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	25	95	25	25	15	90	185	25	15	100	25
Future Vol, veh/h	40	25	95	25	25	15	90	185	25	15	100	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	27	103	27	27	16	98	201	27	16	109	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	579	123	631	579	215	136	0	0	228	0	0
Stage 1	155	155	-	411	411	-	-	-	-	-	-	-
Stage 2	432	424	-	220	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	421	426	928	394	426	825	1448	-	-	1340	-	-
Stage 1	847	769	-	618	595	-	-	-	-	-	-	-
Stage 2	602	587	-	782	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	388	928	309	388	825	1448	-	-	1340	-	-
Mov Cap-2 Maneuver	364	388	-	309	388	-	-	-	-	-	-	-
Stage 1	781	759	-	570	549	-	-	-	-	-	-	-
Stage 2	517	541	-	661	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	16	2.3	0.8
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	578	398	1340	-	-
HCM Lane V/C Ratio	0.068	-	-	0.301	0.178	0.012	-	-
HCM Control Delay (s)	7.7	0	-	13.9	16	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.6	0	-	-

TOTAL 2040

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	355	70	40	450	65	115	200	80	85	175	120
Future Volume (veh/h)	110	355	70	40	450	65	115	200	80	85	175	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	386	76	43	489	71	125	217	87	92	190	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	858	727	410	568	481	395	614	521	386	614	521
Arrive On Green	0.08	0.46	0.46	0.30	0.30	0.30	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	930	1870	1585	1060	1870	1585	1075	1870	1585
Grp Volume(v), veh/h	120	386	76	43	489	71	125	217	87	92	190	130
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	930	1870	1585	1060	1870	1585	1075	1870	1585
Q Serve(g_s), s	2.4	7.9	1.5	1.9	13.9	1.8	5.6	5.0	2.2	4.0	4.3	3.4
Cycle Q Clear(g_c), s	2.4	7.9	1.5	1.9	13.9	1.8	9.9	5.0	2.2	9.0	4.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	858	727	410	568	481	395	614	521	386	614	521
V/C Ratio(X)	0.39	0.45	0.10	0.10	0.86	0.15	0.32	0.35	0.17	0.24	0.31	0.25
Avail Cap(c_a), veh/h	334	980	830	458	664	563	395	614	521	386	614	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	10.4	8.7	14.3	18.5	14.3	17.8	14.4	13.4	17.8	14.1	13.8
Incr Delay (d2), s/veh	0.8	0.4	0.1	0.1	10.0	0.1	2.1	1.6	0.7	1.5	1.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.2	0.4	0.3	6.1	0.5	1.5	2.1	0.8	1.1	1.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	10.8	8.7	14.4	28.5	14.4	19.9	16.0	14.1	19.2	15.4	15.0
LnGrp LOS	B	B	A	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h		582			603			429			412	
Approach Delay, s/veh		11.1			25.8			16.7			16.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		31.8		24.5	8.7	23.1				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		9.9		11.0	4.4	15.9				
Green Ext Time (p_c), s		1.2		2.1		1.2	0.0	1.2				

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Future Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	892	756	371	607	514	379	594	503	373	594	503
Arrive On Green	0.08	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Grp Volume(v), veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Q Serve(g_s), s	2.6	10.6	1.8	4.7	16.1	3.7	5.3	5.2	1.7	2.6	4.7	2.9
Cycle Q Clear(g_c), s	2.6	10.6	1.8	6.5	16.1	3.7	9.9	5.2	1.7	7.8	4.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	892	756	371	607	514	379	594	503	373	594	503
V/C Ratio(X)	0.44	0.54	0.12	0.23	0.90	0.26	0.30	0.37	0.13	0.16	0.33	0.22
Avail Cap(c_a), veh/h	313	946	802	387	642	544	379	594	503	373	594	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	10.8	8.4	16.2	18.8	14.6	19.0	15.4	14.2	18.4	15.2	14.6
Incr Delay (d2), s/veh	1.0	0.6	0.1	0.3	14.7	0.3	2.0	1.7	0.5	0.9	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.4	0.8	7.8	1.1	1.4	2.3	0.6	0.7	2.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	11.3	8.5	16.5	33.4	14.8	21.0	17.1	14.7	19.3	16.7	15.6
LnGrp LOS	B	B	A	B	C	B	C	B	B	B	B	B
Approach Vol, veh/h		701			766			396			365	
Approach Delay, s/veh		11.6			28.2			17.8			16.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		33.8		24.5	8.9	24.9				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		12.6		9.8	4.6	18.1				
Green Ext Time (p_c), s		1.1		2.6		1.1	0.0	0.8				

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	65	25	25	15	55	80	25	15	190	90
Future Vol, veh/h	35	25	65	25	25	15	55	80	25	15	190	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	71	27	27	16	60	87	27	16	207	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	530	522	256	558	558	101	305	0	0	114	0	0
Stage 1	288	288	-	221	221	-	-	-	-	-	-	-
Stage 2	242	234	-	337	337	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	459	783	440	438	954	1256	-	-	1475	-	-
Stage 1	720	674	-	781	720	-	-	-	-	-	-	-
Stage 2	762	711	-	677	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	430	783	363	410	954	1256	-	-	1475	-	-
Mov Cap-2 Maneuver	408	430	-	363	410	-	-	-	-	-	-	-
Stage 1	683	665	-	741	683	-	-	-	-	-	-	-
Stage 2	683	675	-	583	633	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	14.6	2.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	408	430	783	447	1475	-	-
HCM Lane V/C Ratio	0.048	-	-	0.093	0.063	0.09	0.158	0.011	-	-
HCM Control Delay (s)	8	0	-	14.7	13.9	10.1	14.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.3	0.6	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/24/2022

Intersection												
Int Delay, s/veh	5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	25	75	25	25	15	60	205	25	15	145	25
Future Vol, veh/h	45	25	75	25	25	15	60	205	25	15	145	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	27	82	27	27	16	65	223	27	16	158	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	592	584	172	625	584	237	185	0	0	250	0	0
Stage 1	204	204	-	367	367	-	-	-	-	-	-	-
Stage 2	388	380	-	258	217	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	418	423	872	397	423	802	1390	-	-	1316	-	-
Stage 1	798	733	-	653	622	-	-	-	-	-	-	-
Stage 2	636	614	-	747	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	395	872	324	395	802	1390	-	-	1316	-	-
Mov Cap-2 Maneuver	368	395	-	324	395	-	-	-	-	-	-	-
Stage 1	755	723	-	618	588	-	-	-	-	-	-	-
Stage 2	562	581	-	643	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	15.7	1.6	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	368	395	872	408	1316	-	-
HCM Lane V/C Ratio	0.047	-	-	0.133	0.069	0.093	0.173	0.012	-	-
HCM Control Delay (s)	7.7	0	-	16.3	14.8	9.6	15.7	7.8	0	-
HCM Lane LOS	A	A	-	C	B	A	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.2	0.3	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	5.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	25	100	25	25	15	75	105	25	15	170	40
Future Vol, veh/h	35	25	100	25	25	15	75	105	25	15	170	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	109	27	27	16	82	114	27	16	185	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	552	544	207	599	552	128	228	0	0	141	0	0
Stage 1	239	239	-	292	292	-	-	-	-	-	-	-
Stage 2	313	305	-	307	260	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	444	446	833	413	442	922	1340	-	-	1442	-	-
Stage 1	764	708	-	716	671	-	-	-	-	-	-	-
Stage 2	698	662	-	703	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	389	411	833	320	407	922	1340	-	-	1442	-	-
Mov Cap-2 Maneuver	389	411	-	320	407	-	-	-	-	-	-	-
Stage 1	713	699	-	668	626	-	-	-	-	-	-	-
Stage 2	612	618	-	580	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	15.4	2.9	0.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1340	-	-	591	417	1442	-	-
HCM Lane V/C Ratio	0.061	-	-	0.294	0.169	0.011	-	-
HCM Control Delay (s)	7.9	0	-	13.6	15.4	7.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/24/2022

Intersection												
Int Delay, s/veh	6.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	25	100	25	25	15	100	185	25	15	100	25
Future Vol, veh/h	40	25	100	25	25	15	100	185	25	15	100	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	27	109	27	27	16	109	201	27	16	109	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	609	601	123	656	601	215	136	0	0	228	0	0
Stage 1	155	155	-	433	433	-	-	-	-	-	-	-
Stage 2	454	446	-	223	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	407	414	928	379	414	825	1448	-	-	1340	-	-
Stage 1	847	769	-	601	582	-	-	-	-	-	-	-
Stage 2	586	574	-	780	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	373	928	292	373	825	1448	-	-	1340	-	-
Mov Cap-2 Maneuver	348	373	-	292	373	-	-	-	-	-	-	-
Stage 1	773	759	-	549	531	-	-	-	-	-	-	-
Stage 2	498	524	-	655	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	16.6	2.5	0.8
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	570	381	1340	-	-
HCM Lane V/C Ratio	0.075	-	-	0.315	0.185	0.012	-	-
HCM Control Delay (s)	7.7	0	-	14.2	16.6	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.7	0	-	-

Appendix C
Figure and Table 4C-3 Manual on Uniform Traffic Control Devices

Excerpt from the Federal Highway Administration's, "Manual on Uniform Traffic Control Devices" (MUTCD), 2009

2009 EDITION PART 4 FIGURE 4C-3. WARRANT 3, PEAK HOUR

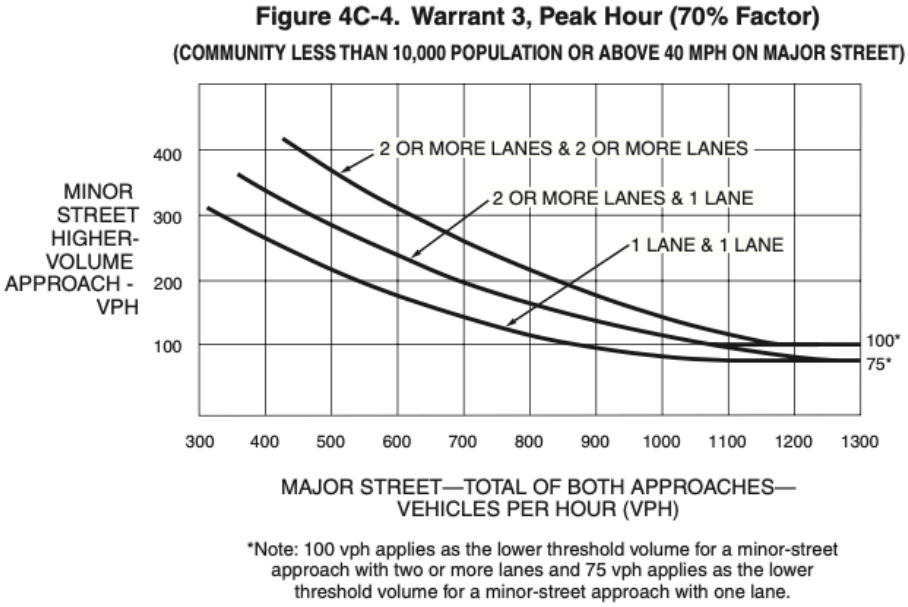


Figure 4C-3. Warrant 3, Peak Hour

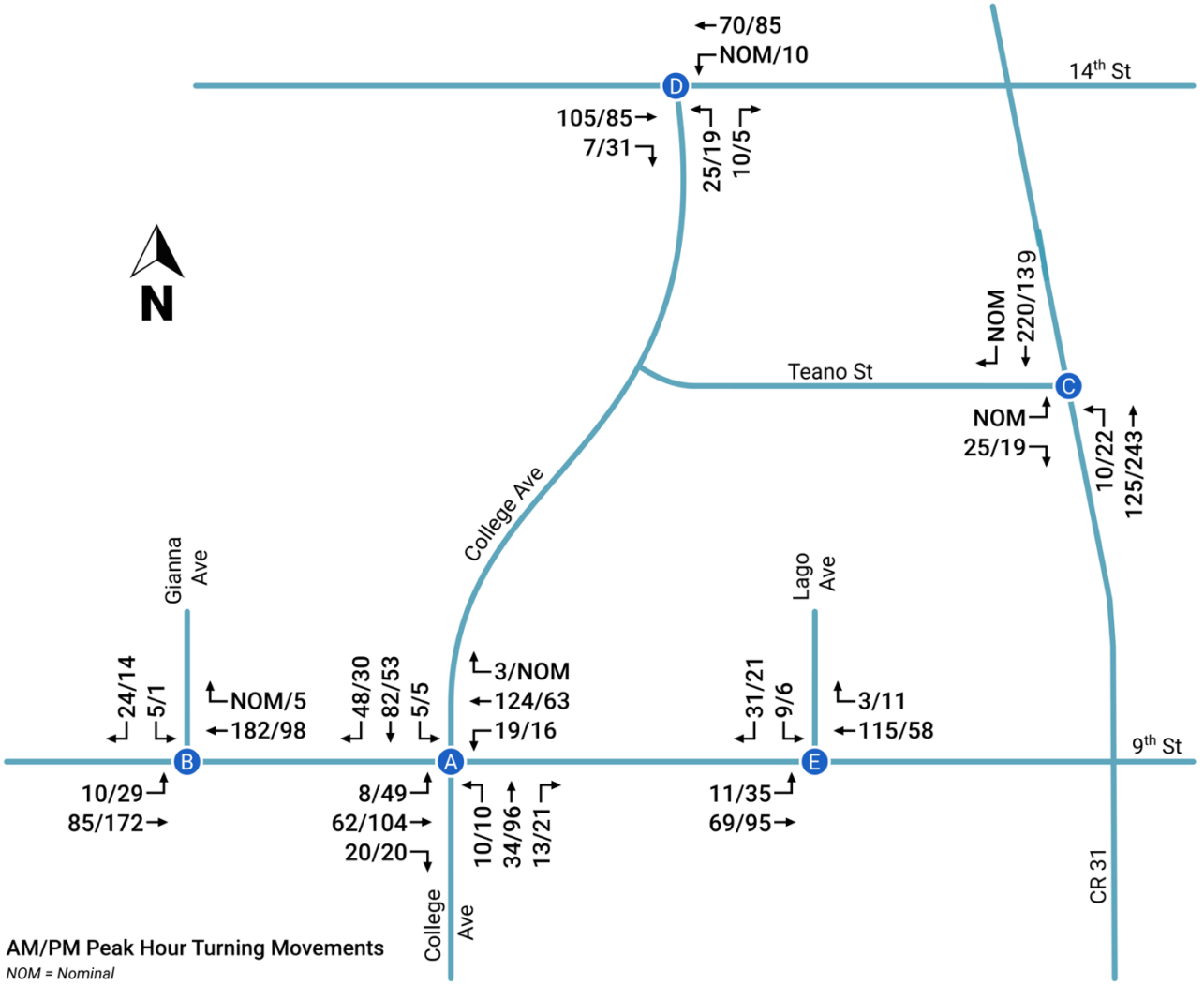
This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

Source: Federal Highway Administration's online "Manual on Uniform Traffic Control Devices" (MUTCD) 2009

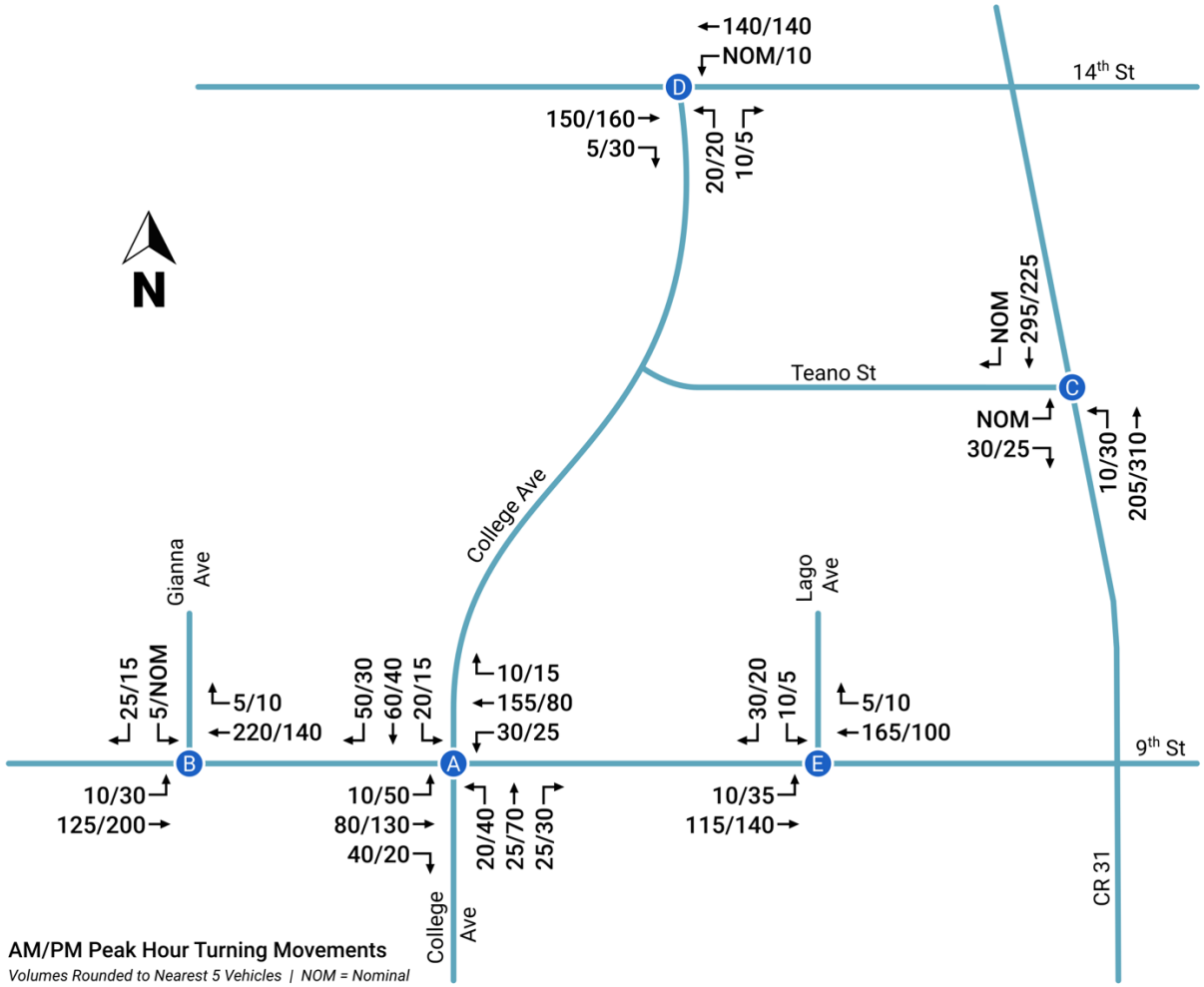
Appendix D

Project Access 2027 and 2040 Volumes and NCHRP REPORT 279

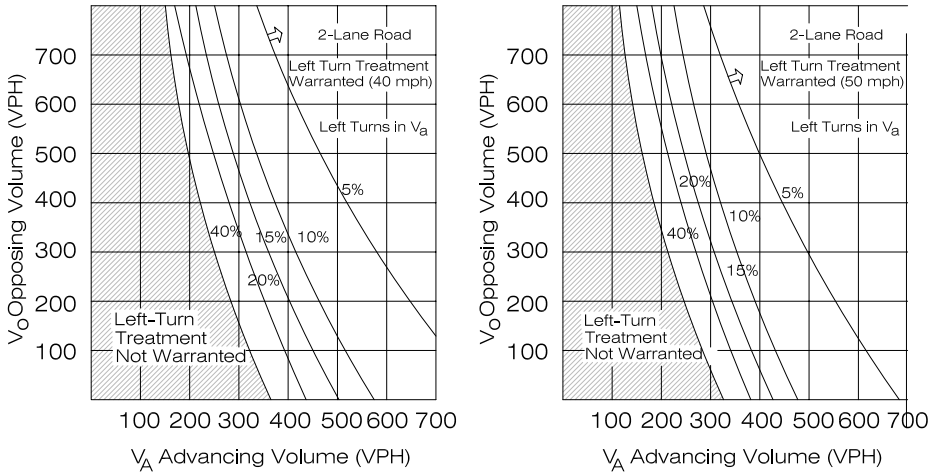
Project Access 2027 Peak Hour Volumes



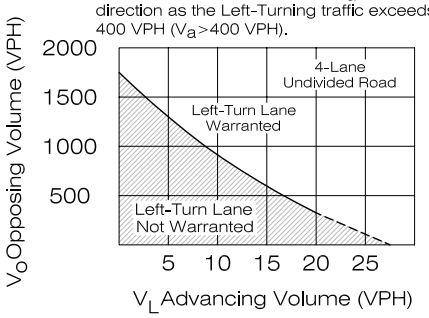
Project Access 2040 Peak Hour Volumes



Based on Transportation Research Board's, *NCHRP – Report 279*, 1985

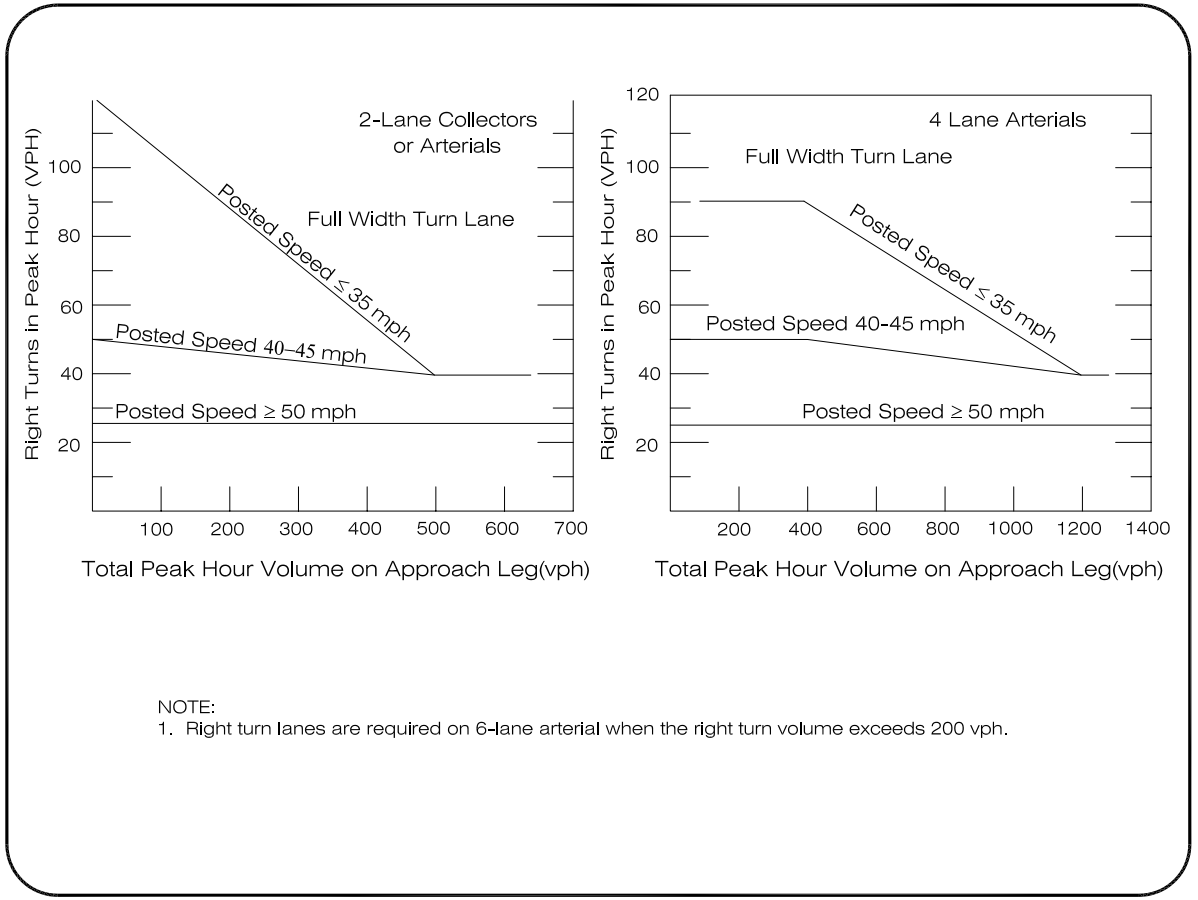


NOTE: When V_O < 400 VPH (dashed line). A Left-Turn Lane is not normally warranted unless the advancing volume (V_a) in the same direction as the Left-Turning traffic exceeds 400 VPH (V_a>400 VPH).



Notes: 1. Left turn lanes are required at all intersections and all-movement accesses on arterial roadways except where roundabouts are provided.

Based on Transportation Research Board's, *NCHRP – Report 279*, 1985



NOTE:
1. Right turn lanes are required on 6-lane arterial when the right turn volume exceeds 200 vph.



Arapaho • CWG • 1476A



Chatfield • CWG • 1293 A



Columbia II • CWG 2171A



Harvard II • CWG-2684A



The Savannah II • CWG 2026M



Yale II(L-C) • CWG • 1870A

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Sign Posting Affidavit

Cottonwood Greens Preliminary PUD Plat Filings 1-10
Project No. LUP2022-0008;
Plan Nos. PPL2022-0002



Facing County Road 31



Facing 9th Street

I, _____ hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this _____ day of _____, 2022.

_____
Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by _____, this _____ day of _____, 2022. Witness my hand and seal.

My commission expires _____.

_____
Notary Public

(SEAL)

Colorado Community Media
750 W. Hampden Ave. Suite 225
Englewood, CO 80110

City of Fort Lupton Legals***
130 S McKinley Avenue
Fort Lupton CO 80621

AFFIDAVIT OF PUBLICATION

State of Colorado }
County of Weld } ss

This Affidavit of Publication for the Fort Lupton Press, a weekly newspaper, printed and published for the County of Weld, State of Colorado, hereby certifies that the attached legal notice was published in said newspaper once in each week, for 1 successive week(s), the last of which publication was made 6/9/2022, and that copies of each number of said paper in which said Public Notice was published were delivered by carriers or transmitted by mail to each of the subscribers of said paper, according to their accustomed mode of business in this office.



For the Fort Lupton Press

State of Colorado }
County of Arapahoe } ss

The above Affidavit and Certificate of Publication was subscribed and sworn to before me by the above named Linda Shapley, publisher of said newspaper, who is personally known to me to be the identical person in the above certificate on 6/9/2022. Linda Shapley has verified to me that she has adopted an electronic signature to function as her signature on this document.

20004025550-365684
Carla Bethke
Notary Public
My commission ends April 11, 2026

CARLA BETHKE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20004025550
MY COMMISSION EXPIRES APRIL 11, 2026

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a Preliminary Plat known as the Cottonwood Greens PUD Filings 1-10 Preliminary Plat, located north and adjacent to 9th St. and west and adjacent to County Road 31 within the City of Fort Lupton, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 23, 2022, at 6:00 P.M., and before the City Council on Tuesday, July 5, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that the City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

MULTIPLE PARCELS OF LAND SITUATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON COUNTY OF WELD, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
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THENCE NORTH 00°09'31 WEST ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 33 1508.37 FEET TO THE SOUTH 1/16 CORNER BETWEEN SECTION 33 AND SECTION 34, THENCE NORTH 89°52'26 WEST ALONG THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33 205.84 FEET TO THE WESTERLY RIGHT OF WAY LINE OF WELD COUNTY ROAD 31 AS CONVEYED TO WELD COUNTY IN THAT WARRANTY DEED RECORDED MAY 23 1980 AS RECEPTION NO. 1825641 OF THE RECORDS OF WELD COUNTY AND THE POINT OF BEGINNING;
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2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7 24'05";
THENCE DEPARTING SAID WESTERLY RIGHT OF WAY LINE NORTH 89°42'22" WEST 828.45 FEET;
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8. NORTH 67°22'41 EAST 53.12 FEET;
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Legal Notice No. FLP641
First Publication: June 9, 2022
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Posted Wednesday, June 8, 2022 10:01 pm



Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the __7th__ day of _____June_____, 2021, a true and correct copy of the foregoing Notice of Public Hearings for the __Cottonwood Greens Preliminary Plat Filings 1-10____ was sent via United States Mail, postage pre-paid, to the following addresses:

COTTONWOOD DEVELOPMENT PARTNERS LLC 4040 MACARTHUR BLVD STE 250 NEWPORT BEACH, CA 926602509	COTTONWOOD GREENS METROPOLITAN DISTRICT NO. 2 C/O CENTENNIAL CONSULTING GROUP 2619 CANTON CT STE A FORT COLLINS, CO 805254453
NORDMAN MATTHEW C 950 NORTHRUP AVE FORT LUPTON, CO 806212303	ROWLEY DOWNS LAND COMPANY 260 KRAMERIA ST DENVER, CO 802205991
SCHOLL ROGER D 2075 9TH ST FORT LUPTON, CO 806212502	SCHRAEDER ANDREA 1050 NORTHRUP AVE FORT LUPTON, CO 806212303
SEVENTH DAY ADVENTIST ASSOCIATON OF COLO 2520 S DOWNING S DENVER, CO 802105818	WATSON GARY A 1000 NORTHRUP AVE FORT LUPTON, CO 806212304
RENNOC CORPERATION DAVID CONNER 2 OSPREY CIRCLE THORNTON, CO 80241	BURKHARDT FAMILY TRUST 15047 HIGHWAY 52 FROT LUPTON, CO 80621-8225
THERMO-FARMS JOSEF GUETLEIN 5501 LOWEL BLVD DENVER, CO 80221-7317	THERMO-FARMS 5305 WEST 86TH AVE ARVADA, CO 80003-1421
STATE OF COLORADO C/O NATIONAL GUARD 6848 SOUTH REVERE PKWY CENTENNNIAL, CO 80112-3904	WELD COUNTY 1150 O ST GREELY, CO 80631-9596
FORT LUPTON FIRE PROTECTION DISTRICT 1121 DENVER AVE FORT LUPTON, CO 80621-2650	SUN WILLOW BEND LLC 27777 FRANKLIN RD STE 200 SOUTHFIELD, MI 48034-8205

Fort Lupton
COLORADO

RENNOC CORPERATION 5303 SOUTH BELLVIEW RD ROGERS, AR 72758-8816	THERMO COGENERATION PARTNERSHIP LP C/O NANCY FAIRCHILD PO BOX 188 FORT LUPTON, CO 80621-0188
TRI-STATE GENERATION & TRANSMISSION 1100 WEST 116TH AVENUE WESTMINSTER, CO 80234-2814	LGI HOMES COLORADO LLC 1450 LAKE ROBBINS DRIVE STE 430 THE WOODLANDS, TX 77380- 3294
BPX ENERGY (Formerly Amoco Production Co.) TRIPP MAXWELL 1700 PLATTE ST STE 150 DENVER, CO 80202	BLACK DIAMOND ROCKIES MIDSTREAM LLC 1001 NOBLE ENERGY WAY HOUSTON, TX 77070
GRAYROCK MINERALS LLC/ VERDAD RESOURCES LLC 5950 CEDAR SPRINGS RD STE 200 DALLAS, TX 75235	PANHANDLE EASTERN PIPELINE MONICA HANSEN PO BOX 127 BIGHTON, CO 80601
ANDARKO E & P LP C/O ANDARKO PETROLEUM CORPORATION ATTN: MANAGER LAND- WESTERN DIVISION PO BOX 9149 WOODLANDS, TX 77387-9147	ANDARKO E & P LP C/O ANDARKO PETROLEUM CORPORATION ATTN: MANGER PROPERTY & RIGHTS OF WAY PO BOX 9149 WOODLANDS, TX 77387-9147
CONNER FAMILY TRUST 1621 FAIR HOUSE RD SPRING HILL, TN 37174-6111	

Clay Hartley

City Official

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

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ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: ***COTTONWOOD GREENS PRELIMINARY AND FINAL PUD PLAT FILINGS 5-10***

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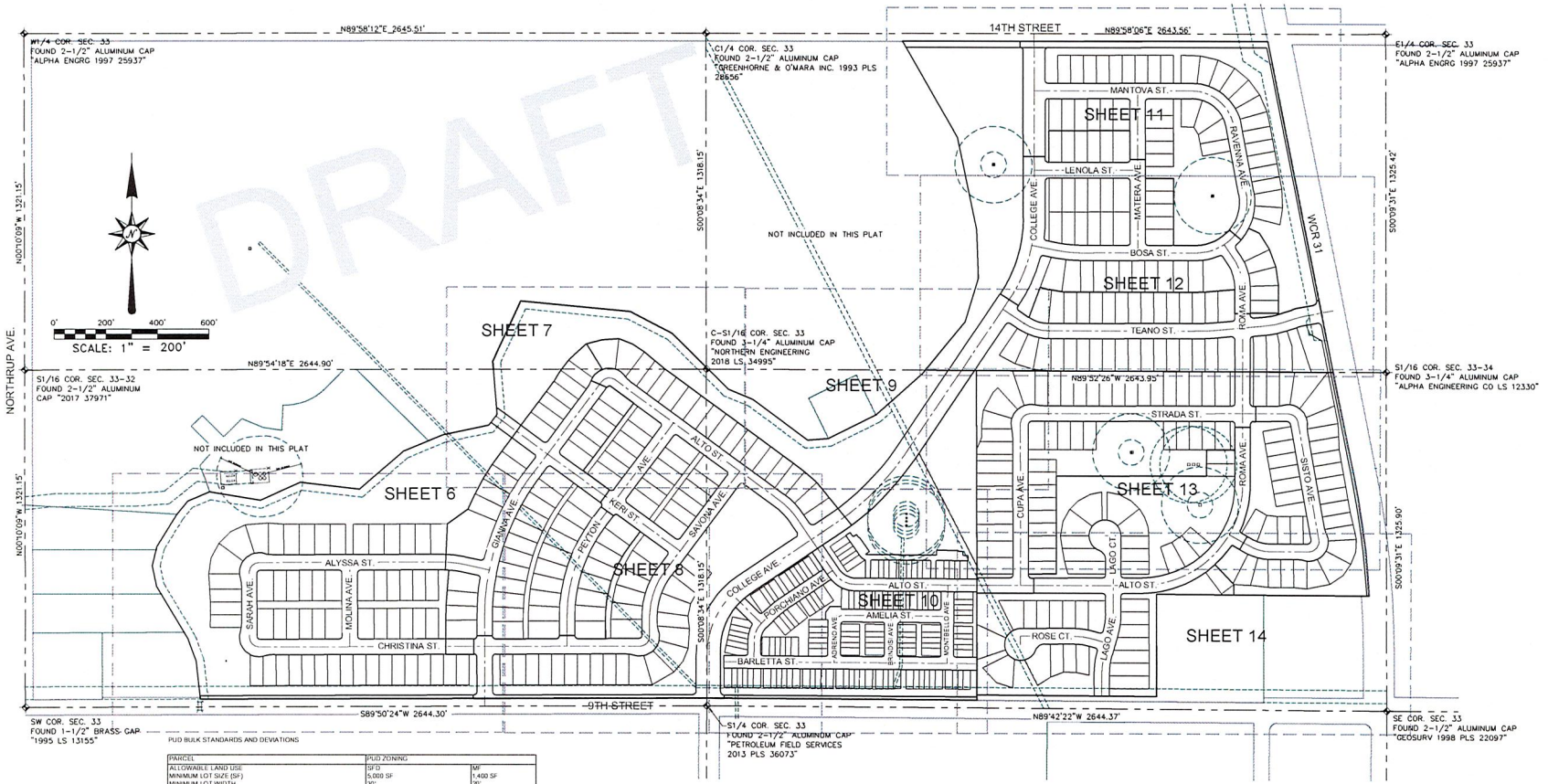
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COTTONWOOD GREENS

PRELIMINARY PUD PLAT

LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



PUD BULK STANDARDS AND DEVIATIONS

PARCEL	PUD ZONING	
ALLOWABLE LAND USE	SFD	MF
MINIMUM LOT SIZE (SF)	5,000 SF	1,400 SF
MINIMUM LOT WIDTH	30'	20'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	15' TO HOUSE
MINIMUM SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	10'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	10'
MINIMUM DWELLING SIZE (SF)	750 SF	500 SF
PRIMARY USES		
HEIGHT	35'	N/A
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	N/A
REAR SETBACK	5'	N/A

NOTES:

A DEVIATION HAS BEEN PROPOSED FOR SECTION III, H 3 II (3) *STREET TREE PLANTING*, OF THE RESIDENTIAL DESIGN STANDARDS. THE FOLLOWING SEPARATIONS HAVE BEEN PROPOSED:

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)
2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE
3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

NO ADDITIONAL DEVIATIONS FROM THE MUNICIPAL CODE ARE PROPOSED.

SECTION CORNER, AS NOTED

SECTION LINE

SHEET MATCH LINE

ATWELL
970.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 14

FILE NO. 21002318-PRELIM PLAT
DATE 07/31/2020
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002318

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Daniel Rodriguez (Atwell)

From: Roy Vestal

Date: June 16, 2022

Subject: Cottonwood Greens PUD Filings 5-10; LUP2022-0008
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Final Plat submittal. Be advised, the preliminary review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Plat**
   a. See Transportation ROW comments, affects Filings 7 and 10.

2. **Site Plan**
   a. Water main in 14th Street connection to CR 31 is required.
   b. Nonpotable water main connection to 14th Street and to CR 31 is required.

3. **Drainage**
   a. Final Drainage Study as submitted is acceptable.
   b. Coordination with current staff planning for this basin is required.
      i. Proposed storm line in 14th needs to be coordinated with Tri-State plans from the east.

4. **Transportation**
   a. The Traffic Study as submitted is acceptable.
   b. CR 31 currently has 60-feet of ROW existing. CR 31 is an arterial with a ROW requirement of 110-feet total. An additional 25-feet is required.
   c. 14th Street ROW dedication by plat is good.

5. **Landscape / Grading** - *Chapter 2 Design Standards*
   a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
   b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

6. Utilities

a. **Utility Memo**

i. Water main in 9th Street being connected to at College is a 21" x 21" cross. (See attached record drawing)
ii. Please include a network hydraulic modeling of the proposed development. We need to ensure the distribution system proposed will be adequate for future city growth.
iii. Confirm with developer that they have plot plans for homes that will fit your utility service locations. The meter locations will be at 5-feet from property lines, cannot be next to concrete driveways. This has proven to be a challenge in other developments since the driveways tend to be on one side of the home, which, with narrow lots it is offset from the property line by 5-feet. All of the elevation drawings show this to be the case. I would suggest reevaluating your utility service configurations.

b. Water - Chapter 3

i. There will be no connection to 9th Street. Move your blow off and cap to the north side of the gas line crossing to avoid irritating Oxy.
ii. *Section 3.12.01 Water System Utility Study* required.
iii. *Section 3.18.01* Water mains shall be extended the entire frontage of the property. The 12" line in College Avenue will be required to extend to 14th Street to the north and connected to the 12" main at the intersection of 14th Street and CR 31.
iv. Section 3.18.01 Minimum horizontal separation from water and all other utilities (including irrigation line) is 10-feet (edge of pipe to edge of pipe). All street sections on sheet 2 need to be revised.
v. Section 3.21.00 All service lines 3/4 inch through 2 inch shall be copper and shall be installed continuous without joints between the corporation stop at the water main and the meter or curb stop.
vi. The proposed pattern along lot frontages for utility services has proven to be problematic with meeting required separations and edge of concrete separation to meter pits. It will be required that all meter pits be 4-feet from edge of driveways. The water service must be 10-feet from irrigation and sanitary services.
vii. Services directly across from each other on the same main will not provide perpendicular service lines to the property. They will have to alternate sides of the street to avoid as depicted.

c. Non Potable Irrigation

i. The nonpotable water main will be connected to 14th and connected to CR 31.
ii. Please identify open space irrigation system connection to the nonpotable water line and label meter size required.

iii. The main feed to each sub area system must be from a master metered vault location.

d. Sanitary Sewer - Chapter 4

i. *Section 4.12.00* A utility study is required.
ii. Coordination of timing for offsite sanitary sewer in 9th Street will be required with City 9th Street project.

e. Roadway - Chapter 6

i. 14th Street and CR 31 improvements are required. Need to be included with CD's at appropriate Filing frontage. 14th Street with Filing 6CR 31 staged to occur for full improvements with Filing 10. Additional discussions will need to occur regarding CR 31 build-out.
ii. *Section 6.33.00* A Pavement Design Report is required prior to roadway paving. City preferred pavement section is a composite section of asphalt surface with Class VI base.
iii. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The site triangle needs to be pulled back to the ultimate roadway section.
iv. 9th Street Improvements payment will be required with approval of the Plats.

f. Traffic Control - Chapter 8

i. The Traffic Study as submitted is acceptable.

7. **Public Improvement Agreement** – A Subdivision Improvements Agreement will be required for the construction of roadways, water, sewer and nonpotable water systems. See attached template.

8. A Geotechnical report for final pavement design will be required prior to paving. **Be advised the pavement section for this area will now require subbase stabilization and a composite pavement section**.

There may be additional concerns as this design develops.

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 06/08/2022
Project name: Cottonwood Greens PUD Filing #5-10
Project address: Fort Lupton, CO 80621
FLFPD Project # R2022-029
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the submittal for **Cottonwood Greens PUD Filing #5-10** located at Fort Lupton, CO 80621. The submittal was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*
3. The following items shall be submitted for review prior to construction.
    a. Site Plan showing,
        i. Width of fire department access roads
        ii. Hydrant Locations & Distancing (One document please)
        iii. Street lengths to dead end
4. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders
5. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m2) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour.

Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m2) shall not be less than that specified in Table B105.1.

a. Exception: A reduction in required fire-flow of 50 percent, as approved, is allowed when the building is equipped with an approved automatic sprinkler system.

6. The minimum number of fire hydrants available to a building shall not be less than that listed in Table C105.1. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table C105.1 when applied to fire apparatus access roads and perimeter public streets from which fire operations could be conducted.

7. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3.

Exceptions:

1. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the International Fire Code, access from two directions shall not be required.

2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

8. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

9. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way a monument, pole or other sign or means shall be used to identify the structure. Address numbers shall be maintained.

10. Provide a document that will be sent to new potential home owners in filing 5-10 notifying them that the Fort Lupton Fire Protection District has a fire station, training center, burn tower, and driver training lot in the area. The document shall be reviewed by the fire district for approval.

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, June 8, 2022 1:30 PM
To: Magaly Morales-Tejada
Cc: Maria Lancto; Todd Hodges
Subject: RE: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 23, 2022 3:21 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

External Message - Please be cautious when replying or opening links or attachments in this email

Good Afternoon,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/668.

Any comments you consider relevant to this request would be appreciated. Please reply by **June 13, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 23, 2022 at 6:00 PM; and

- City Council: Tuesday, July 5, 2022 at 7:00 PM

Your time in this matter is greatly appreciated!

WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 23, 2022 3:28 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

There is no law enforcement issues from a planning perspective. Only the future staff needs as the projects develop.

Remember "Find a Way to Help"

John Fryar, Chief of Police
130 S. McKinley Ave
Fort Lupton, CO 80621

Work (303) 857-4011
Cell (303) 210-0100

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 23, 2022 3:21 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

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WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
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Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 31, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Todd Hodges and Maria Lancto and Magaly Morales-Tejeda

Re: Cottonwood Greens PUD Filings 5-10, Case # LUP2022-0008

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the documentation for **Cottonwood Greens PUD Filings 5-10**. The property owner/developer/contractor must complete the application process for any new natural gas service via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

If additional easements need to be acquired by separate PSCo document, a Right-of-Way Agent will need to be contacted.

Donna George
Right of Way and Permits
Public Service Company of Colorado / Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

June 14, 2022

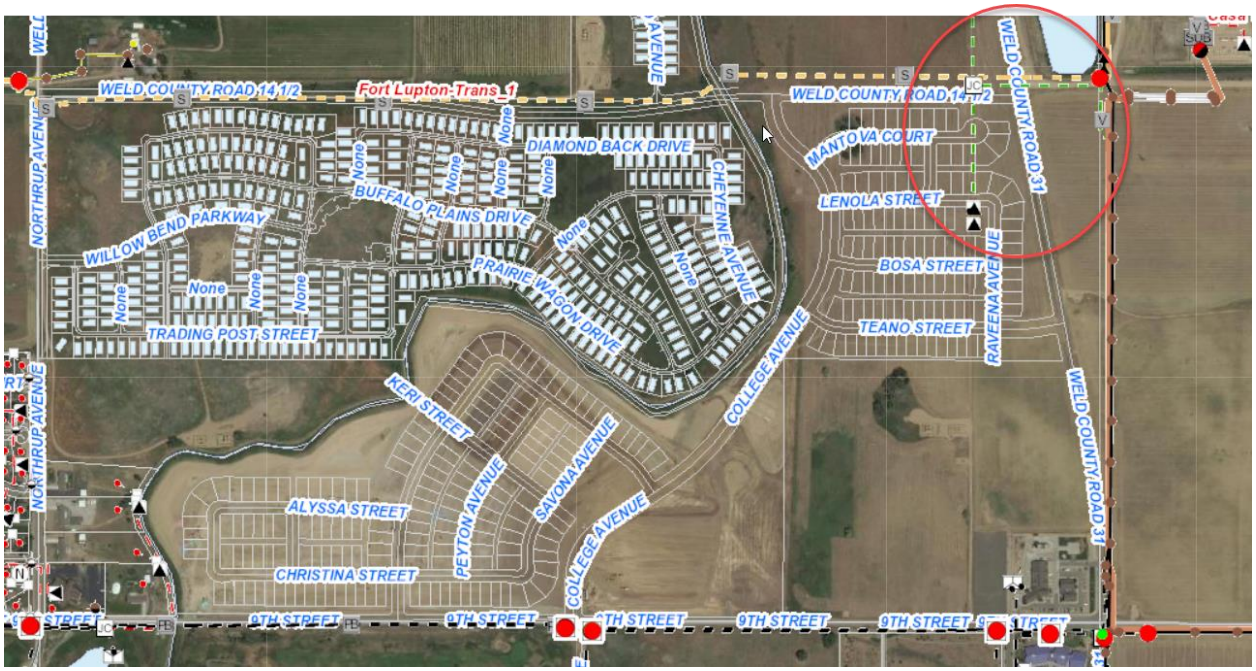
City of Fort Lupton | Planning & Building
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: PPL2022-0002 & FPL2022-0002 – Cottonwood Greens PUD Filing 5-10

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Cottonwood Greens Preliminary PUD Plat and Cottonwood Greens PUD Filing No. 5-10. After review of the information, we have the following comments:

- We have existing underground electrical distribution within the site location for Filing No. 7. According to the construction plans in the PUD Plat, this line is to be relocated. Please work closely with United Power Prior to construction to make arrangements. When relocated, this line must be within an easement and the easement area cannot be encumbered.



- PUD Plat – Sheets 11, 12, 13 and 14 do not indicate easement areas; however, it appears there are easements on the plat.

- **Easements utilized by United Power** - Cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

- **Streetlights** – When streetlight locations are identified in a subdivision, we need a 5' wide dry utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc. Please note, if we do not get these through the platting process, we will have to get individual ones during the design which will slow United Power's ability to start construction significantly.

- **Landscaping within a Utility Easement**- When landscaping in utility easements, please keep in mind that we can only have shallow rooting vegetation such as small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines. The trunk/base of the tree(s) should be minimum of 5' away from the underground electric line with no trees planted under overhead lines. Any landscaping should be a minimum clearance distance of 15' from the front and both sides of equipment such as transformers, and cabinets, etc. and five feet from the back to allow a backhoe if needed

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

LEGAL DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 87°46'51" EAST 763.89 FEET TO THE SOUTH RIGHT–OF–WAY LINE OF 14TH STREET AND THE NORTHWEST CORNER OF SAID THERMO–FARMS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID SOUTH RIGHT–OF–WAY LINE AND ALONG THE NORTH LINE OF SAID THERMO–FARMS NORTH 89°58'06" EAST 456.81 FEET;

THENCE DEPARTING SAID SOUTH RIGHT–OF–WAY LINE AND SAID NORTH LINE SOUTH 00°01'47" EAST 25.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AND A CENTER WHICH BEARS SOUTH 45°04'31" EAST;

THENCE 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45" TO A POINT OF TANGENCY;

THENCE SOUTH 00°07'09" EAST 656.17 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 532.50 FEET;

THENCE 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40" TO A POINT OF NON–TANGENCY;

THENCE SOUTH 56°15'29" EAST 85.00 FEET;

THENCE SOUTH 33°44'31" WEST 3.48 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE SOUTH 56°15'29" EAST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE HAVING A RADIUS OF 145.00 FEET;

THENCE 3.03 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°11'50" TO A POINT OF NON–TANGENCY;

THENCE NORTH 20°20'45" EAST 127.99 FEET;

THENCE SOUTH 69°39'15" EAST 18.25 FEET;

THENCE SOUTH 79°55'29" EAST 75.55 FEET;

THENCE NORTH 89°52'51" EAST 500.00 FEET;

THENCE NORTH 89°25'40" EAST 50.00 FEET;

THENCE NORTH 85°16'56" EAST 50.16 FEET;

THENCE NORTH 84°52'51" EAST 65.46 FEET;

THENCE SOUTH 00°07'09" EAST 93.65 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 5.63 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO A POINT OF TANGENCY;

THENCE NORTH 84°52'51" EAST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 264.00 FEET;

THENCE 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40" TO A POINT OF TANGENCY;

THENCE NORTH 71°48'11" EAST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET;

THENCE 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31" TO A POINT OF TANGENCY;

THENCE NORTH 78°50'42" EAST 46.09 FEET TO A POINT OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 15.00 FEET;

THENCE 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59" TO A POINT OF NON–TANGENCY;

THENCE NORTH 78°50'42" EAST 10.00 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY ROAD 31, ALSO BEING THE EASTERLY LINE OF SAID THERMO–FARMS;

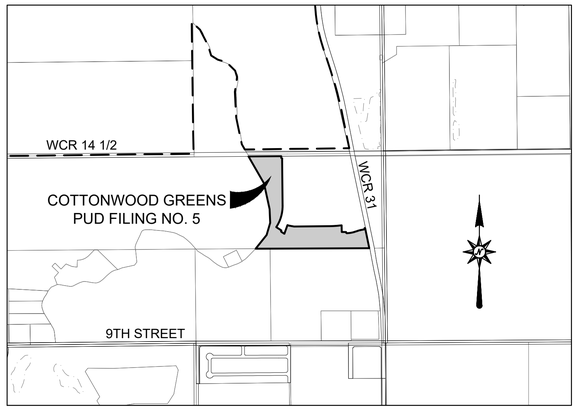
THENCE ALONG SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID EASTERLY LINE SOUTH 11°09'18" EAST 287.30 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33, ALSO BEING THE SOUTH LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID SOUTH LINES NORTH 89°52'26" WEST 1498.55 FEET TO THE WESTERLY LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID WESTERLY LINE THE FOLLOWING FIVE (5) COURSES:

1. NORTH 39°06'23" EAST 246.83 FEET;
2. NORTH 16°42'35" EAST 177.01 FEET;
3. NORTH 02°13'20" WEST 191.53 FEET;
4. NORTH 11°45'35" WEST 367.88 FEET;
5. NORTH 29°31'20" WEST 434.19 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 667,121 SQUARE FEET, OR 15.31 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 5, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 5 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 5

FILE NO.	21002209 CC FLE 5
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	15,261	0.35	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,817	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	264,050	6.06	DETENTION, OPEN SPACE	METRO DISTRICT
D	4,189	0.10	UTILITIES, OPEN SPACE	METRO DISTRICT
E	11,243	0.26	RIGHT-OF-WAY	FORT LUPTON
	296,560	6.75		
LOTS (37)	252,517	5.79		
RIGHT-OF-WAY	129,287	2.97		
TOTAL	667,121	15.31		

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

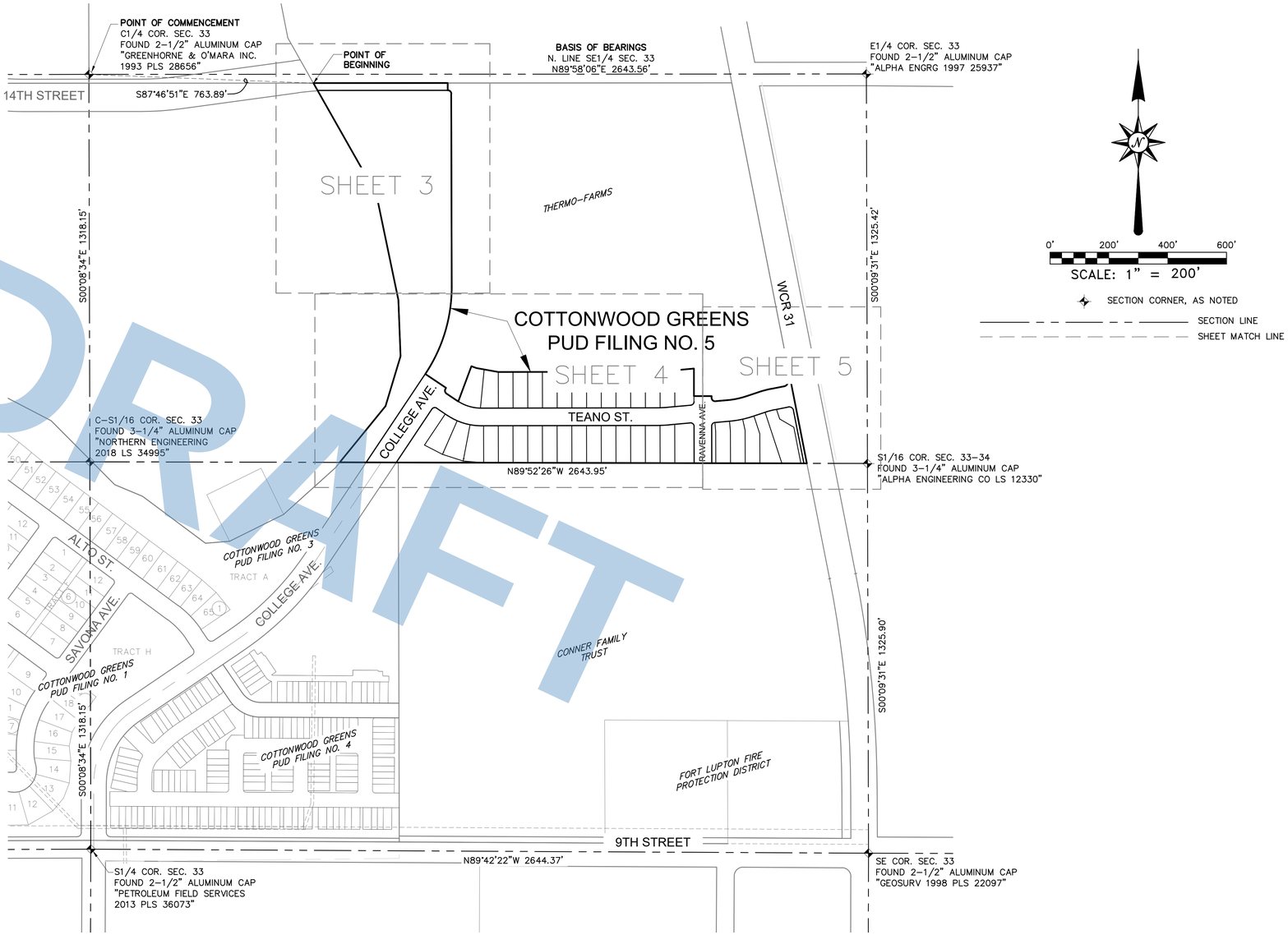
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT NO. 0019515-030-TH-EG DATED OCTOBER 5, 2018 IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 658,877 SQARE FEET, OR 15.13 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U.S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 5

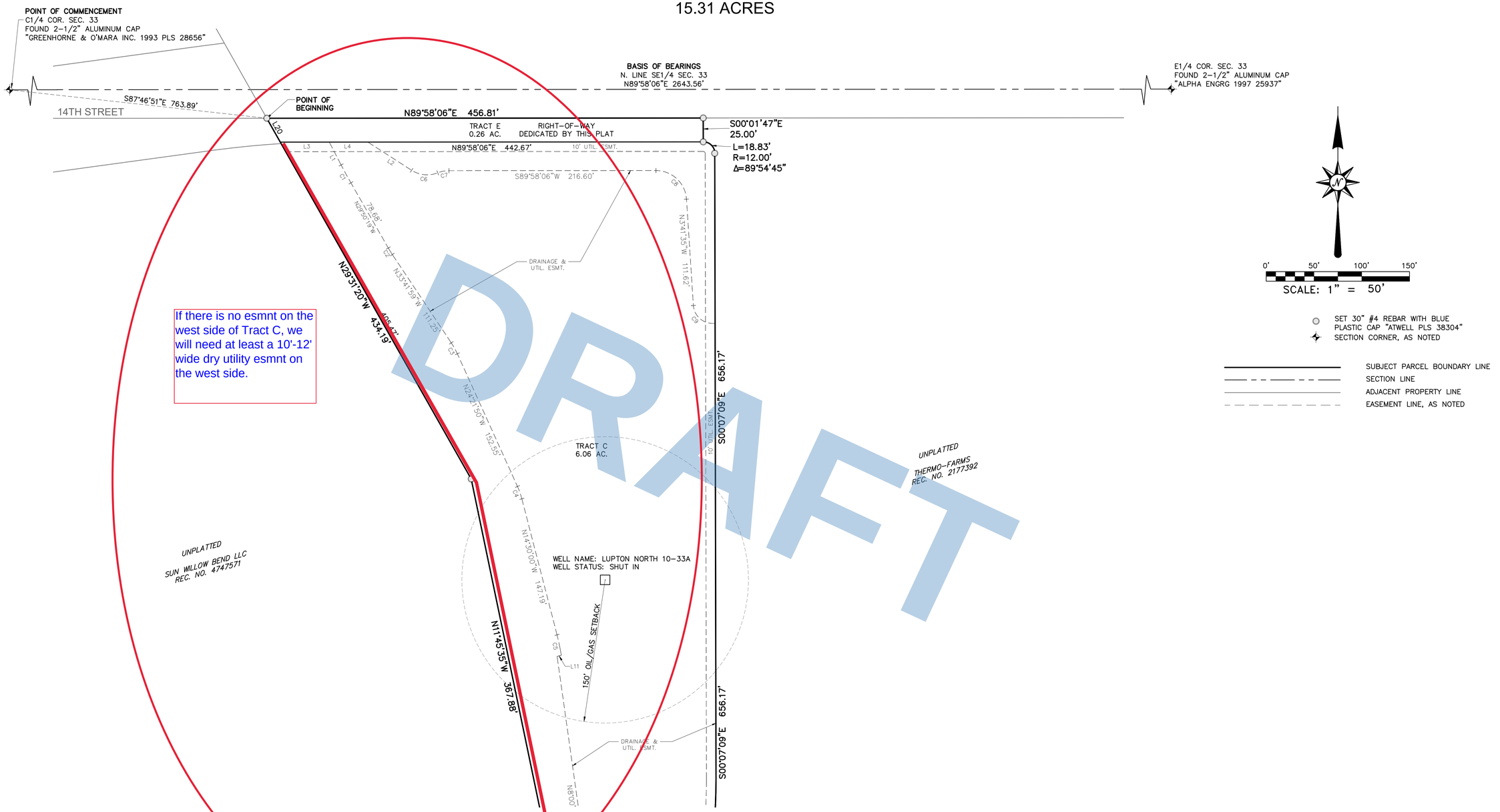
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DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES



DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 5

FILE NO.	21002209 CC FLG 3
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

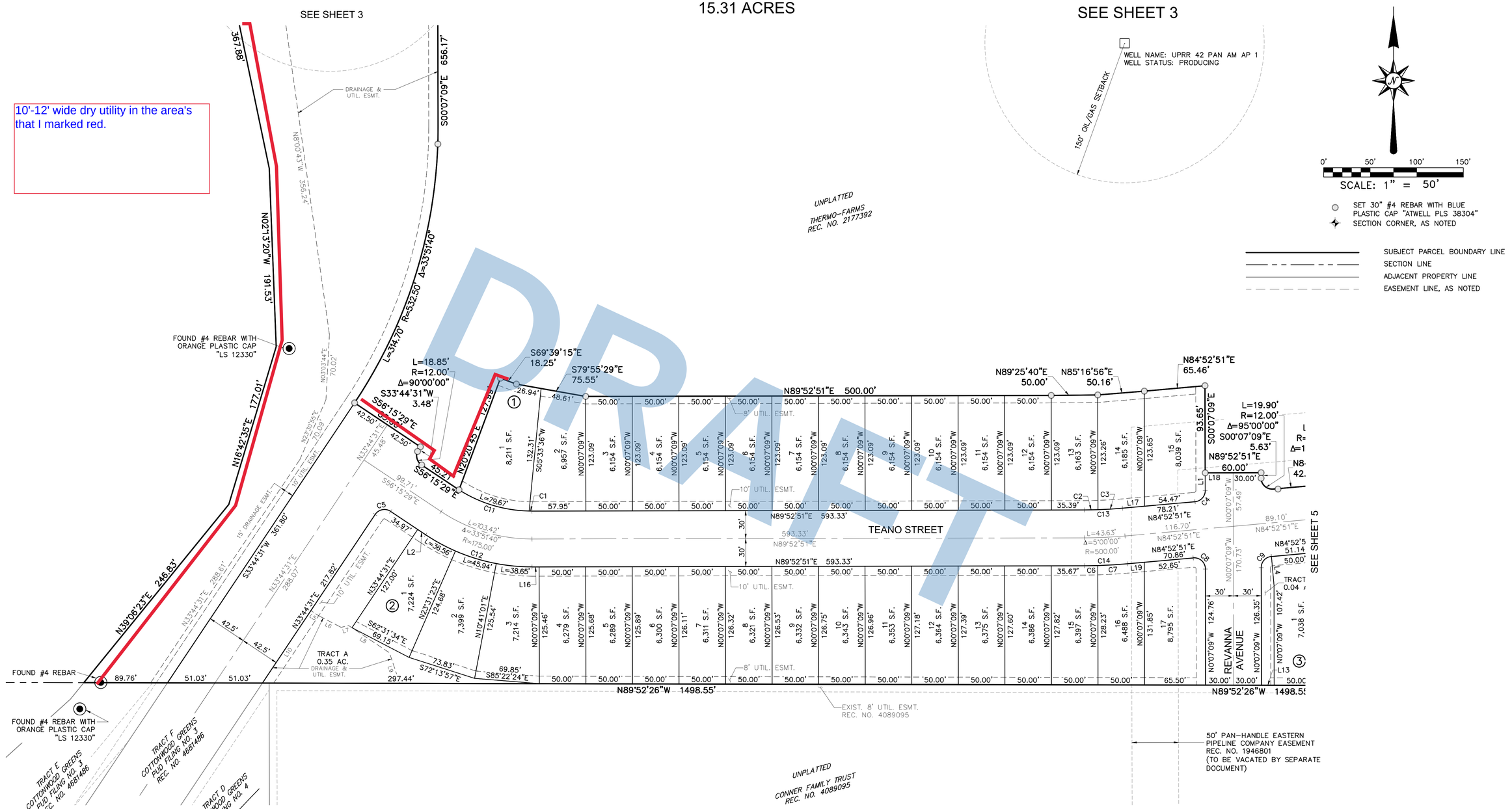
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

10'-12' wide dry utility in the area's that I marked red.



PRELIMINARY DRAFT

COLORADO LICENSED
MICHAEL LLOYD TUTT
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
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303.462.1100

REVISIONS	

SHEET 4 OF 5

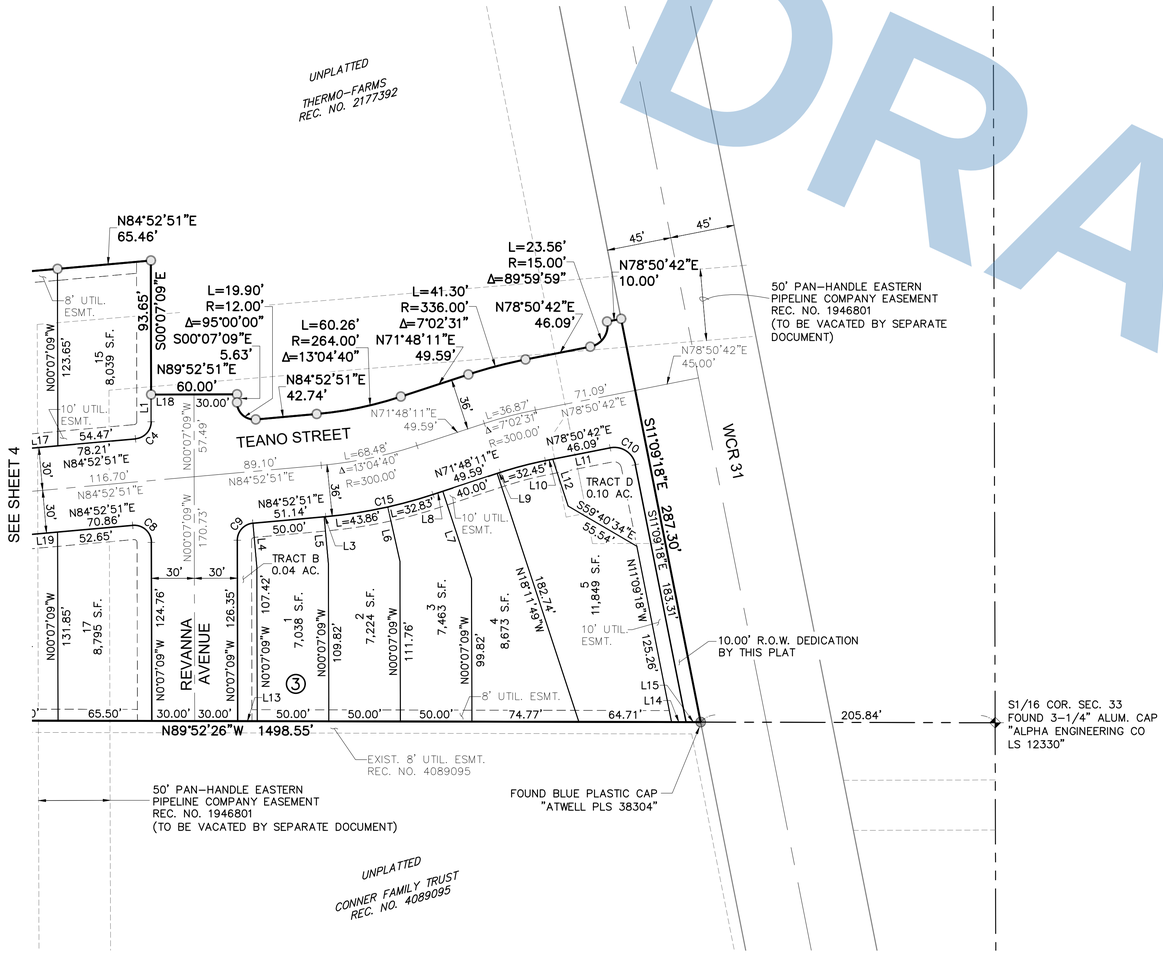
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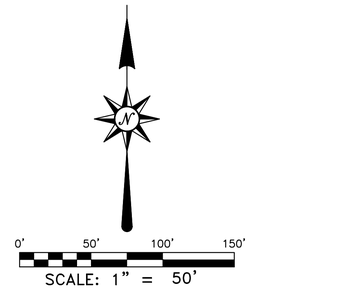
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





LOT & TRACT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N00°07'09"W	19.01'
L2	S56°15'29"E	10.25'
L3	S84°52'51"W	1.14'
L4	N05°07'09"W	31.06'
L5	N05°07'09"W	33.24'
L6	N12°35'55"W	39.06'
L7	N18°11'49"W	64.35'
L8	S71°48'11"W	7.17'
L9	S71°48'11"W	2.42'
L10	S78°50'42"W	5.25'
L11	S78°50'42"W	40.84'
L12	N18°11'49"W	34.53'
L13	N89°52'26"W	13.66'
L14	N89°52'26"W	10.20'
L15	N89°52'26"W	10.20'
L16	S89°52'51"W	7.66'
L17	S84°52'51"W	23.74'
L18	N89°52'51"E	30.00'
L19	S84°52'51"W	18.21'
L20	N29°31'20"W	28.72'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	1°10'58"	145.00'	2.99'
C2	1°46'55"	470.00'	14.62'
C3	3°13'05"	470.00'	26.40'
C4	85°00'00"	12.00'	17.80'
C5	90°00'00"	12.00'	18.85'
C6	1°32'58"	530.00'	14.33'
C7	3°27'02"	530.00'	31.92'
C8	95°00'00"	12.00'	19.90'
C9	85°00'00"	12.00'	17.80'
C10	90°00'00"	15.00'	23.56'
C11	33°51'40"	145.00'	85.69'
C12	33°51'41"	205.00'	121.15'
C13	5°00'00"	470.00'	41.02'
C14	5°00'00"	530.00'	46.25'
C15	13°04'40"	336.00'	76.69'

EASEMENT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N27°23'50"W	27.00'
L2	N57°11'52"W	50.39'
L3	N89°58'20"E	51.23'
L4	N89°57'48"E	40.33'
L5	N56°15'29"W	9.45'
L6	N62°31'34"W	27.72'
L7	S75°36'29"W	8.22'
L8	N56°15'29"W	52.86'
L9	N18°38'56"W	34.67'
L10	N33°44'31"E	93.67'
L11	N75°30'00"E	4.58'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	2°26'29"	500.00'	21.30'
C2	3°51'40"	120.00'	8.09'
C3	9°20'09"	80.00'	13.04'
C4	9°51'50"	80.00'	13.77'
C5	3°46'40"	199.00'	13.12'
C6	54°30'15"	30.00'	28.54'
C7	21°40'13"	32.00'	12.10'
C8	86°20'19"	32.00'	48.22'
C9	86°25'34"	20.00'	30.17'

DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WELL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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OF 5

FILE NO.	21002209 CC FLC 5
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 68°38'55" EAST 1323.87 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE DEPARTING SAID EASTERLY LINE NORTH 89°52'51" EAST 85.00 FEET;

THENCE SOUTH 00°07'09" EAST 11.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 3.00 FEET;

THENCE NORTH 00°07'09" WEST 125.31 FEET;

THENCE NORTH 89°52'51" EAST 315.21 FEET;

THENCE SOUTH 00°07'09" EAST 113.31 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 72.18 FEET;

THENCE NORTH 89°49'35" EAST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 264.59 FEET;

THENCE NORTH 89°52'51" EAST 85.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 170.00 FEET;

THENCE 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";

THENCE SOUTH 50°22'42" EAST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;

THENCE 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";

THENCE SOUTH 64°00'29" EAST 46.81 FEET;

THENCE SOUTH 31°39'11" EAST 73.97 FEET;

THENCE SOUTH 20°06'58" EAST 72.65 FEET;

THENCE SOUTH 07°57'50" EAST 73.78 FEET;

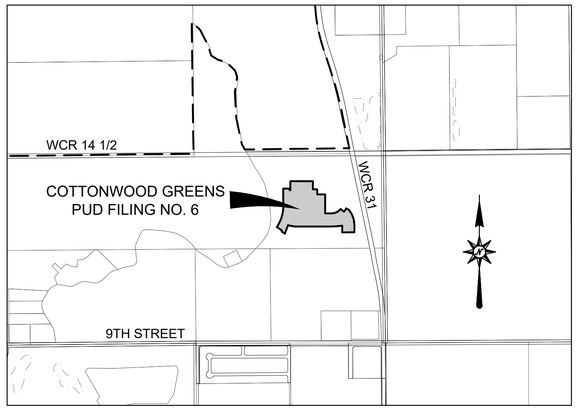
THENCE SOUTH 00°07'09" EAST 180.09 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE ALONG THE BOUNDARY OF SAID COTTONWOOD GREENS PUD FILING NO. 5 THE FOLLOWING SIXTEEN (16) COURSES:

1. SOUTH 00°07'09" EAST 1.46 FEET;
2. SOUTH 89°52'51" WEST 60.00 FEET;
3. NORTH 00°07'09" WEST 93.65 FEET;
4. SOUTH 84°52'51" WEST 65.46 FEET;
5. SOUTH 85°16'56" WEST 50.16 FEET;
6. SOUTH 89°25'40" WEST 50.00 FEET;
7. SOUTH 89°52'51" WEST 500.00 FEET;
8. NORTH 79°55'29" WEST 75.55 FEET;
9. NORTH 69°39'15" WEST 18.25 FEET;
10. SOUTH 20°20'45" WEST 127.99 FEET;
11. NORTH 56°15'29" WEST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
12. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
13. NORTH 33°44'31" EAST 3.48 FEET;
14. NORTH 56°15'29" WEST 85.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 532.50 FEET AND A CENTER WHICH BEARS NORTH 56°15'29" WEST;
15. 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40";
16. NORTH 00°17'09" WEST 240.47 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 442,010 SQUARE FEET, OR 10.15 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 6, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 6 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

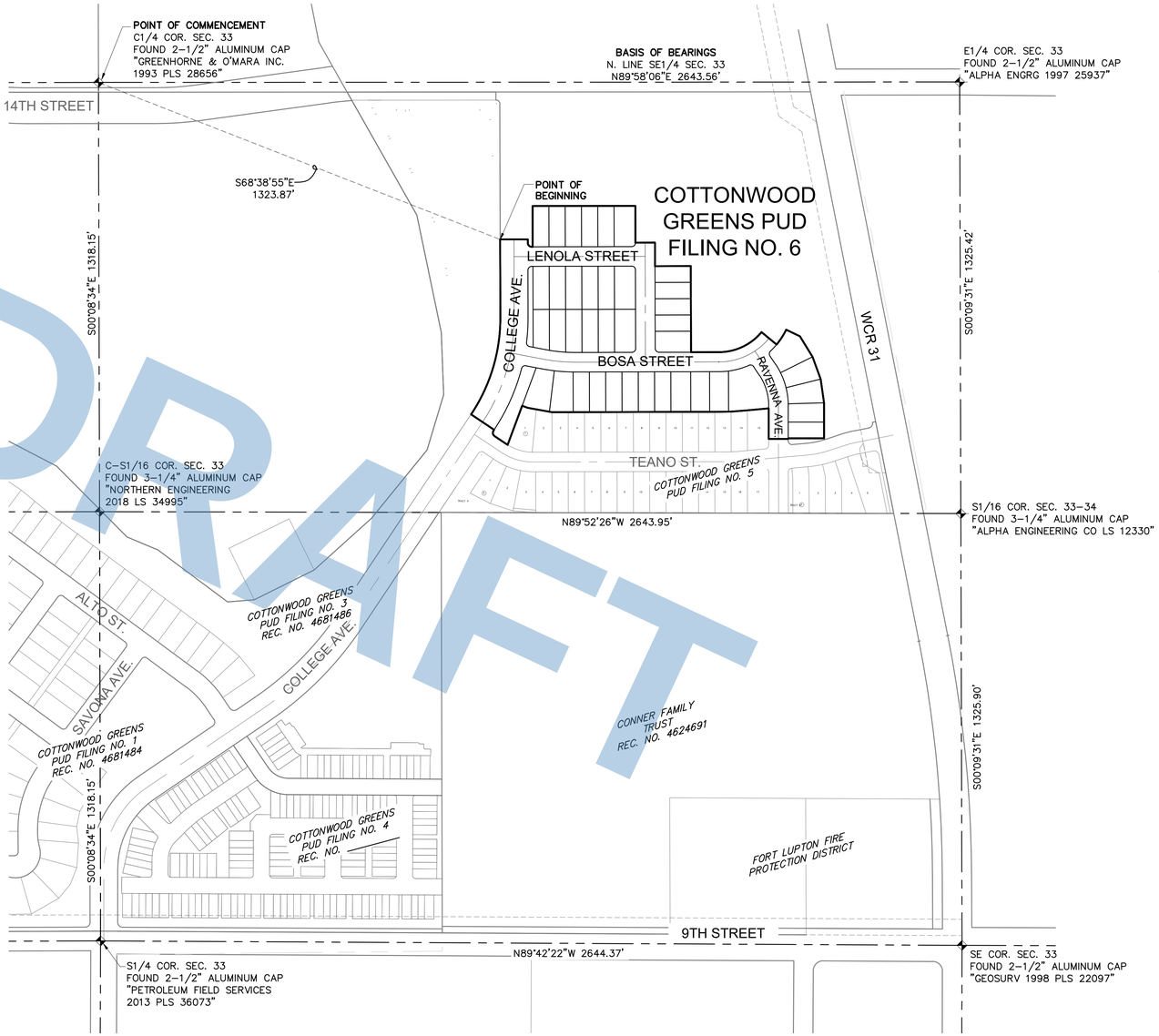
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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	10,531	0.24	UTILITIES, OPEN SPACE	METRO DISTRICT
B	3,958	0.09	UTILITIES, OPEN SPACE	METRO DISTRICT
	14,489	0.33		
LOTS (39)	276,524	6.34		
RIGHT-OF-WAY	151,601	3.48		
TOTAL	442,010	10.15		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 443,518 SQARE FEET, OR 10.18 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD POOL
PROFESSIONAL LAND SURVEYOR
38304

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 4

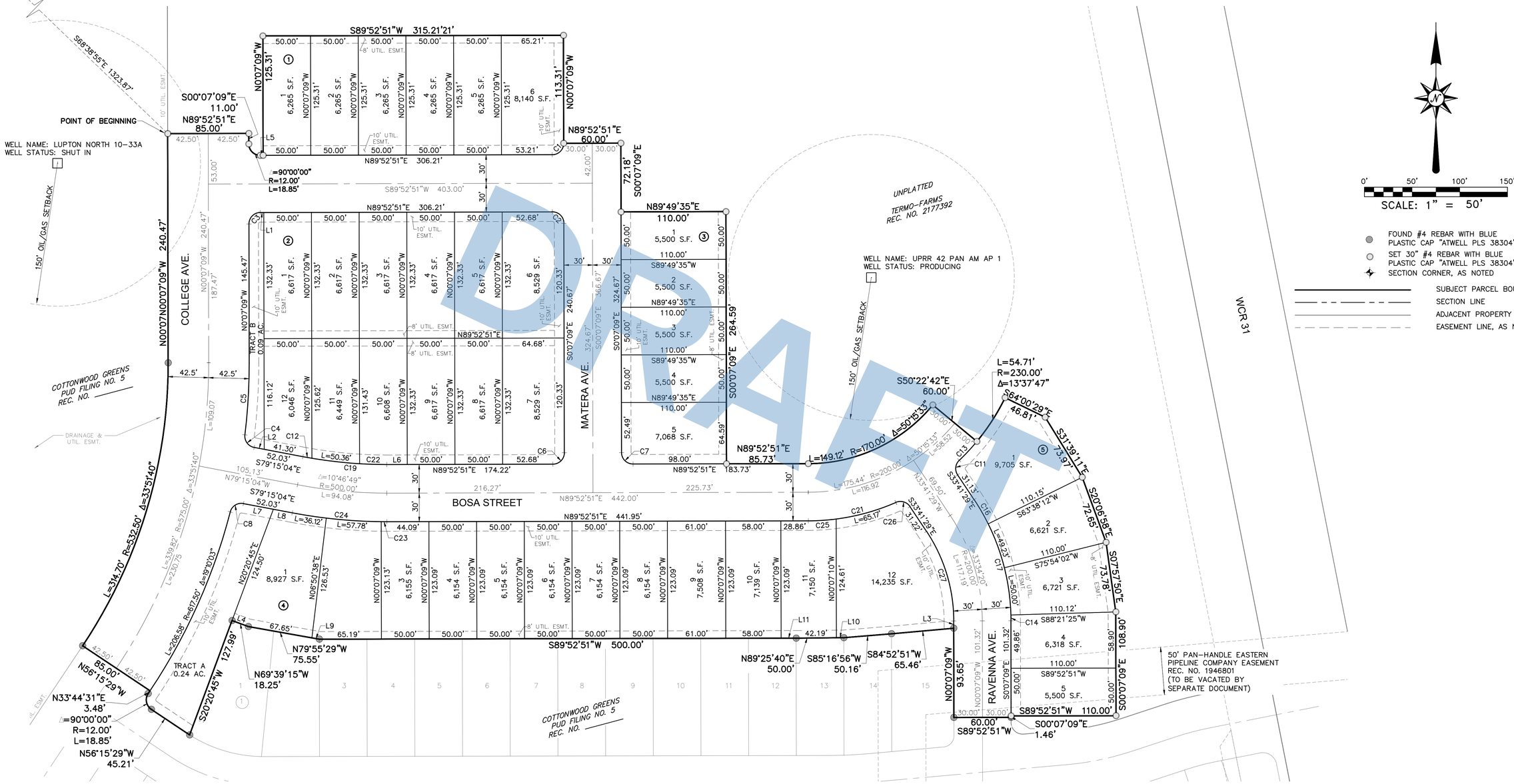
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DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD TROUT
38204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

FILE NO.	21002209 CC FLC 6
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N89°52'51"E	3.53'
L2	N79°15'04"W	10.73'
L3	S0°07'09"E	7.67'
L4	N69°39'15"W	18.25'
L5	S89°52'51"W	3.00'
L6	S89°52'51"W	21.54'
L7	N79°15'04"W	31.86'
L8	N79°15'04"W	20.17'
L9	N79°55'29"W	7.90'
L10	N89°25'40"E	7.81'
L11	N89°52'51"E	15.81'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	12.00'	18.85'
C2	90°00'00"	12.00'	18.85'
C3	90°00'00"	12.00'	18.85'
C4	86°10'28"	12.00'	18.05'
C5	7°02'32"	617.50'	75.90'
C6	90°00'00"	12.00'	18.85'
C7	90°00'00"	12.00'	18.85'
C8	86°10'28"	12.00'	18.05'
C11	80°04'13"	12.00'	16.77'
C12	1°10'11"	470.00'	9.59'
C13	6°45'26"	230.00'	27.13'
C14	1°31'26"	230.00'	6.12'
C16	7°19'40"	230.00'	29.42'
C17	33°34'20"	230.00'	134.77'
C19	10°46'49"	470.00'	88.43'
C21	23°30'47"	230.00'	94.39'
C22	3°28'17"	470.00'	28.48'
C23	0°38'17"	530.49'	5.91'
C24	10°46'49"	530.49'	99.81'
C25	7°16'45"	230.00'	29.22'
C26	79°56'27"	12.00'	16.74'
C27	33°34'20"	170.00'	99.61'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PRATT
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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OF 4

FILE NO.	21002209 CC FLE 6
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COTTONWOOD GREENS PUD FILING NO. 7

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

14.45 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 88°37'23" EAST 1220.47 FEET TO THE NORTH LINE OF SAID THERMO–FARMS, ALSO BEING THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID NORTH LINE NORTH 89°58'06" EAST 965.96 FEET TO THE NORTHEAST CORNER OF SAID THERMO–FARMS, ALSO BEING THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY 31;

THENCE ALONG THE EASTERLY LINE OF SAID THERMO–FARMS AND ALONG SAID WESTERLY RIGHT–OF–WAY LINE SOUTH 11°09'18" EAST 1032.34 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING SAID EASTERLY LINE AND SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID NORTHERLY LINE THE FOLLOWING EIGHT (8) COURSES:

1. SOUTH 78°50'42" WEST 10.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AND A CENTER WHICH BEARS SOUTH 78°50'43" WEST;
2. 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59";
3. SOUTH 78°50'42" WEST 46.09 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 336.00 FEET;
4. 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31";
5. SOUTH 71°48'11" WEST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 264.00 FEET;
6. 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40";
7. SOUTH 84°52'51" WEST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
8. 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 6 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

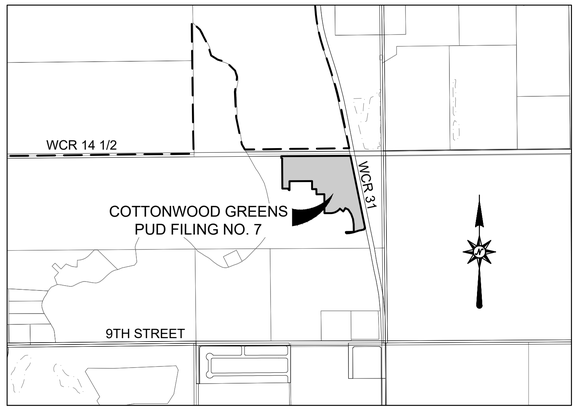
THENCE DEPARTING SAID NORTHERLY LINE AND ALONG THE EASTERLY AND NORTHERLY LINES OF SAID COTTONWOOD GREENS PUD FILING NO. 6 THE FOLLOWING TWENTY–TWO (22) COURSES:

1. NORTH 00°07'09" WEST 7.10 FEET;
2. NORTH 89°52'51" EAST 110.00 FEET;
3. NORTH 00°07'09" WEST 108.90 FEET;
4. NORTH 07°57'50" WEST 73.78 FEET;
5. NORTH 20°06'58" WEST 72.65 FEET;
6. NORTH 31°39'11" WEST 73.97 FEET;
7. NORTH 64°00'29" WEST 46.81 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 64°00'29" WEST;
8. 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";
9. NORTH 50°22'42" WEST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 170.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;
10. 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";
11. SOUTH 89°52'51" WEST 85.73 FEET;
12. NORTH 00°07'09" WEST 264.59 FEET;
13. SOUTH 89°49'35" WEST 110.00 FEET;
14. NORTH 00°07'09" WEST 72.18 FEET;
15. SOUTH 89°52'51" WEST 60.00 FEET;
16. NORTH 00°07'09" WEST 113.31 FEET;
17. SOUTH 89°52'51" WEST 315.21 FEET;
18. SOUTH 00°07'09" EAST 125.31 FEET;
19. SOUTH 89°52'51" WEST 3.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
20. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
21. NORTH 00°07'09" WEST 11.00 FEET;
22. SOUTH 89°52'51" WEST 85.00 FEET TO THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 6 AND ALONG SAID EASTERLY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 00°07'09" WEST 415.70 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;
2. 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45";
3. NORTH 00°01'47" WEST 25.00 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 629,556 SQUARE FEET, OR 14.45 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 7, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 7 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 4

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CHECK BY	MLP
JOB NO.	21002209

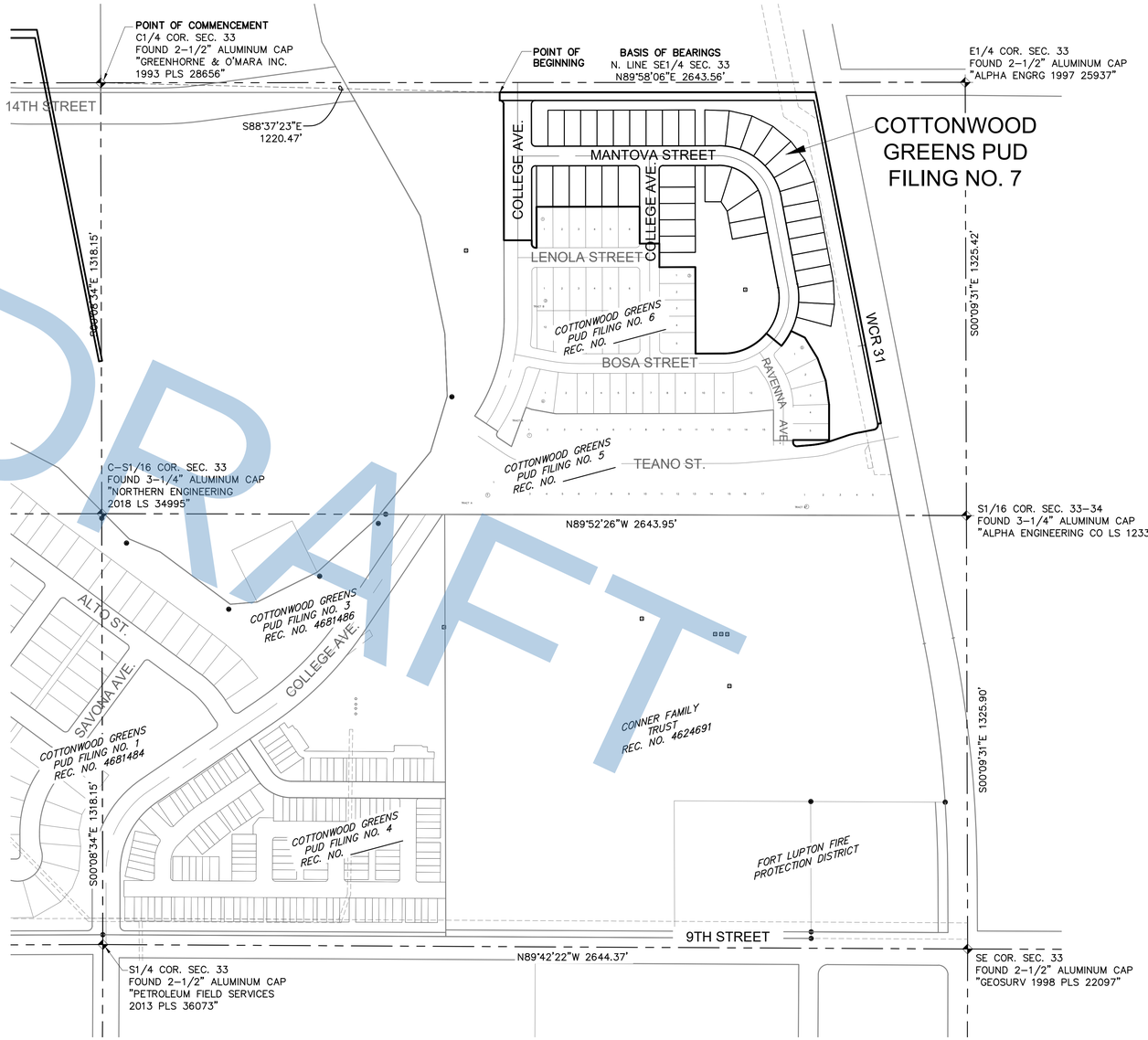
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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,697	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	133,498	3.06	UTILITIES, OPEN SPACE	METRO DISTRICT
C	101,697	2.33	UTILITIES, OPEN SPACE	METRO DISTRICT
D	34,289	0.79	RIGHT-OF-WAY	CITY OF FORT LUPTON
	273,181	6.26		
LOTS				
(38)	230,880	5.31		
RIGHT-OF-WAY	125,495	2.88	(159,784 S.F. 3.67 AC. INCL. TRACT D)	
TOTAL	629,556	14.45		



DEVELOPER/APPLICANT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
JIM RIGHEIMER
4040 MacARTHUR BLVD., #250
NEWPORT BEACH, CA 92660 (303) 905-3496

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 637,767 SQARE FEET, OR 14.64 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

DRAFT
PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 4

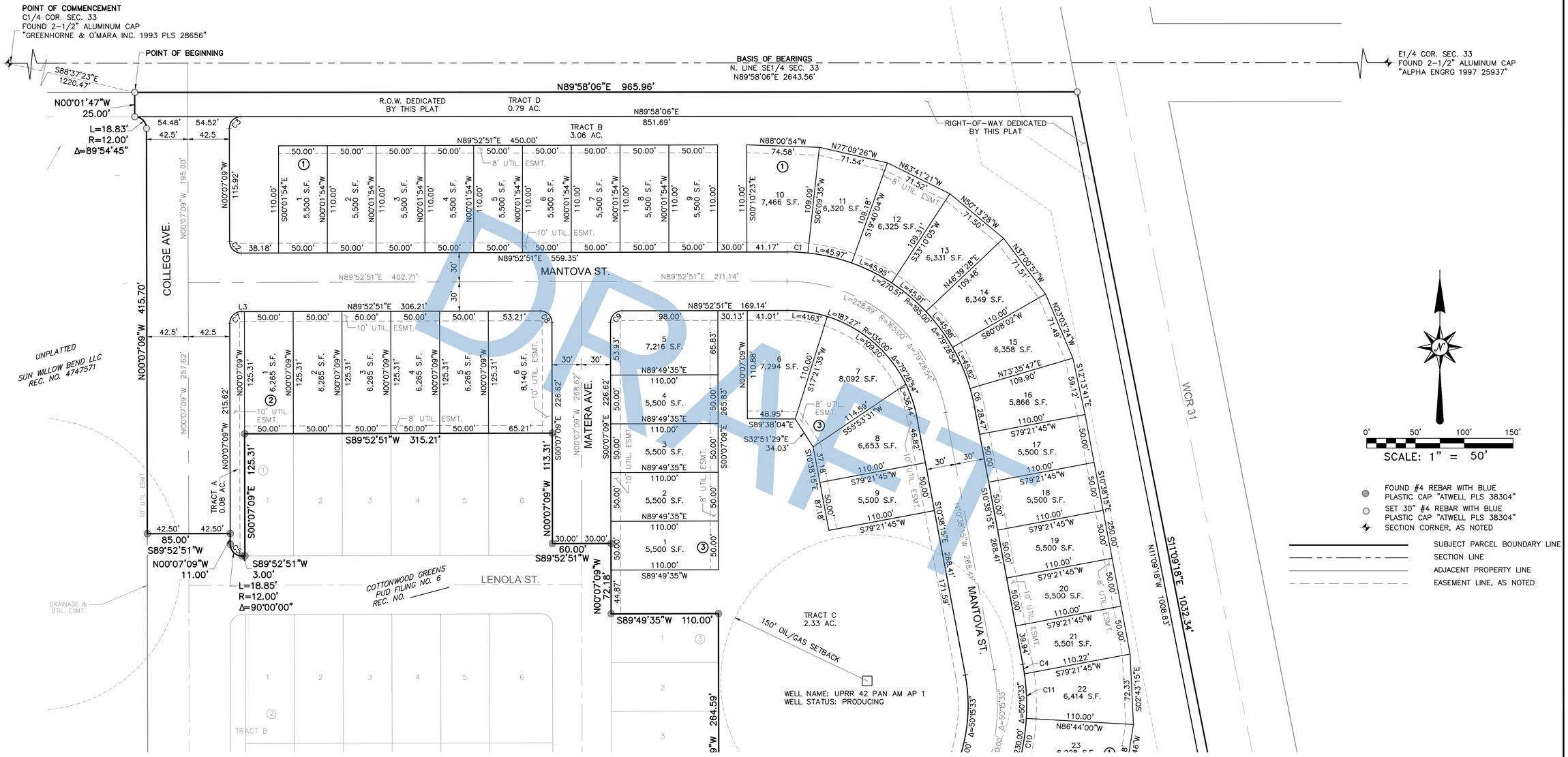
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD CHILTON
32204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

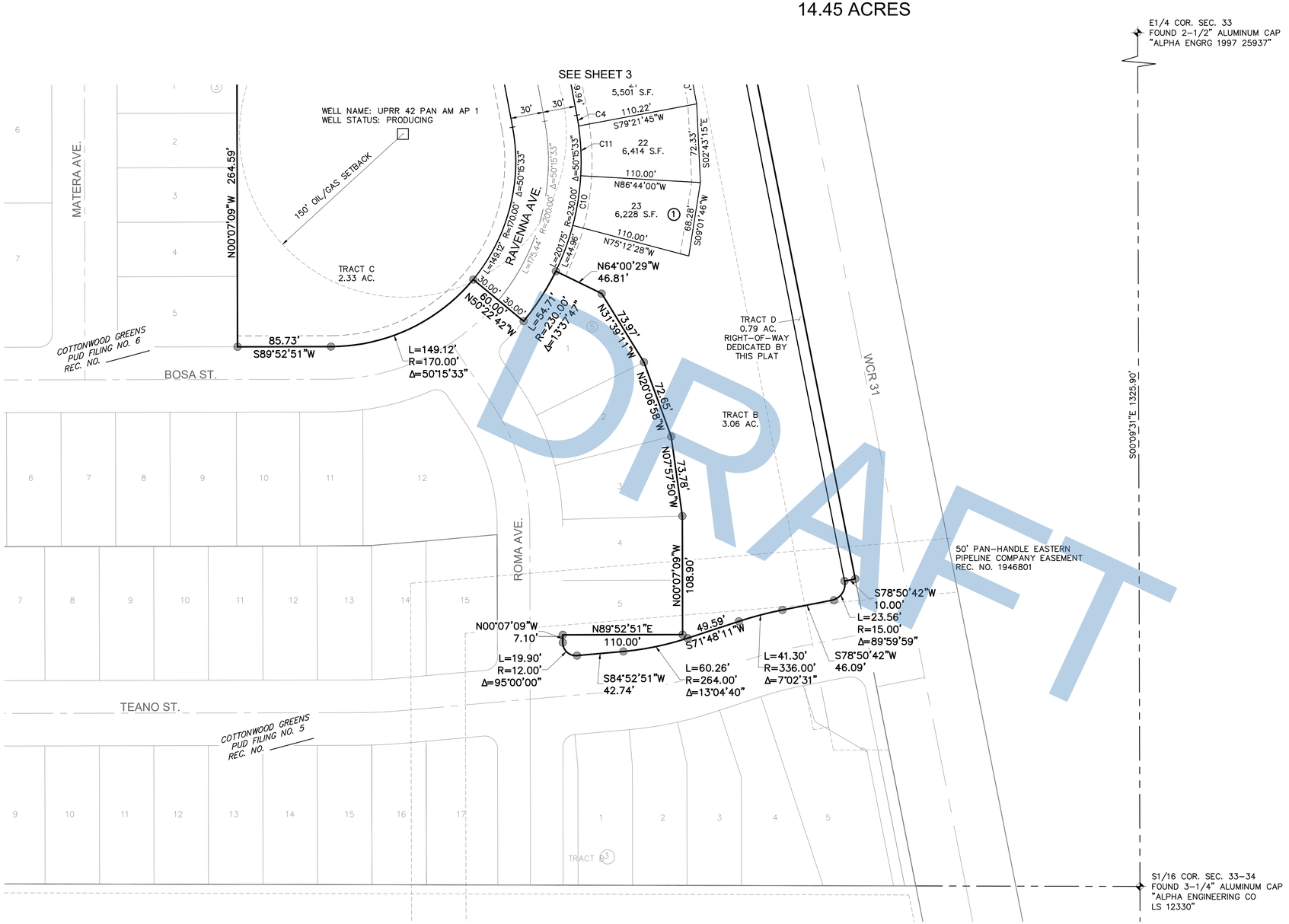
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L3	N89°52'51"E	306.21'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	6°16'43"	195.00'	21.37'
C2	90°00'00"	12.00'	18.85'
C3	90°05'15"	12.00'	18.87'
C4	2°30'24"	230.00'	10.06'
C5	90°00'00"	12.00'	18.85'
C6	5°45'58"	195.00'	19.62'
C7	90°00'00"	12.00'	18.85'
C8	90°00'00"	12.00'	18.85'
C9	90°00'00"	12.00'	18.85'
C10	11°31'31"	230.00'	46.27'
C11	11°23'52"	230.00'	45.75'

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WOOD
38204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 4

FILE NO.	21002209 CC FLC 7
DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 38°32'50" EAST 1688.35 FEET TO THE NORTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTHEAST CORNER OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____ ____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTH LINE OF SAID CONNER FAMILY TRUST, AND ALONG THE SOUTH LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5 SOUTH 89°52'26" EAST 1065.75 FEET;

THENCE DEPARTING SAID NORTH AND SOUTH LINES SOUTH 00°07'09" EAST 123.08 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE SOUTH 00°07'09" EAST 10.00 FEET;

THENCE SOUTH 89°52'51" WEST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 88.00 FEET;

THENCE SOUTH 89°52'51" WEST 110.51 FEET;

THENCE SOUTH 00°07'09" EAST 105.00 FEET;

THENCE SOUTH 89°52'51" WEST 584.88 FEET;

THENCE SOUTH 00°07'09" EAST 383.92 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 3.84 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

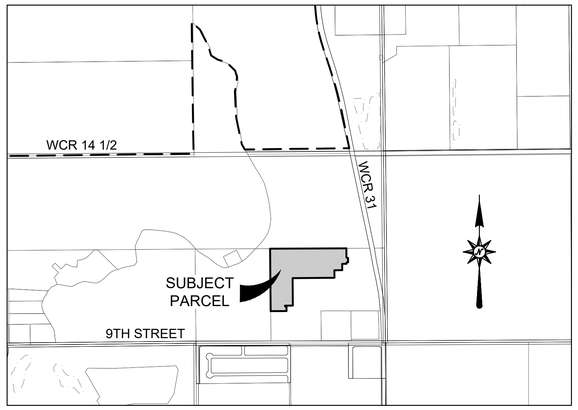
THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE NORTH 89°59'48" WEST 222.00 FEET TO THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG SAID EAST LINE NORTH 00°08'34" WEST 873.93 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 553,160 SQUARE FEET, OR 12.70 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 8, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 8 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:
_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

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DATE	02/02/2022
DRAWN BY	TWK
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JOB NO.	21002209

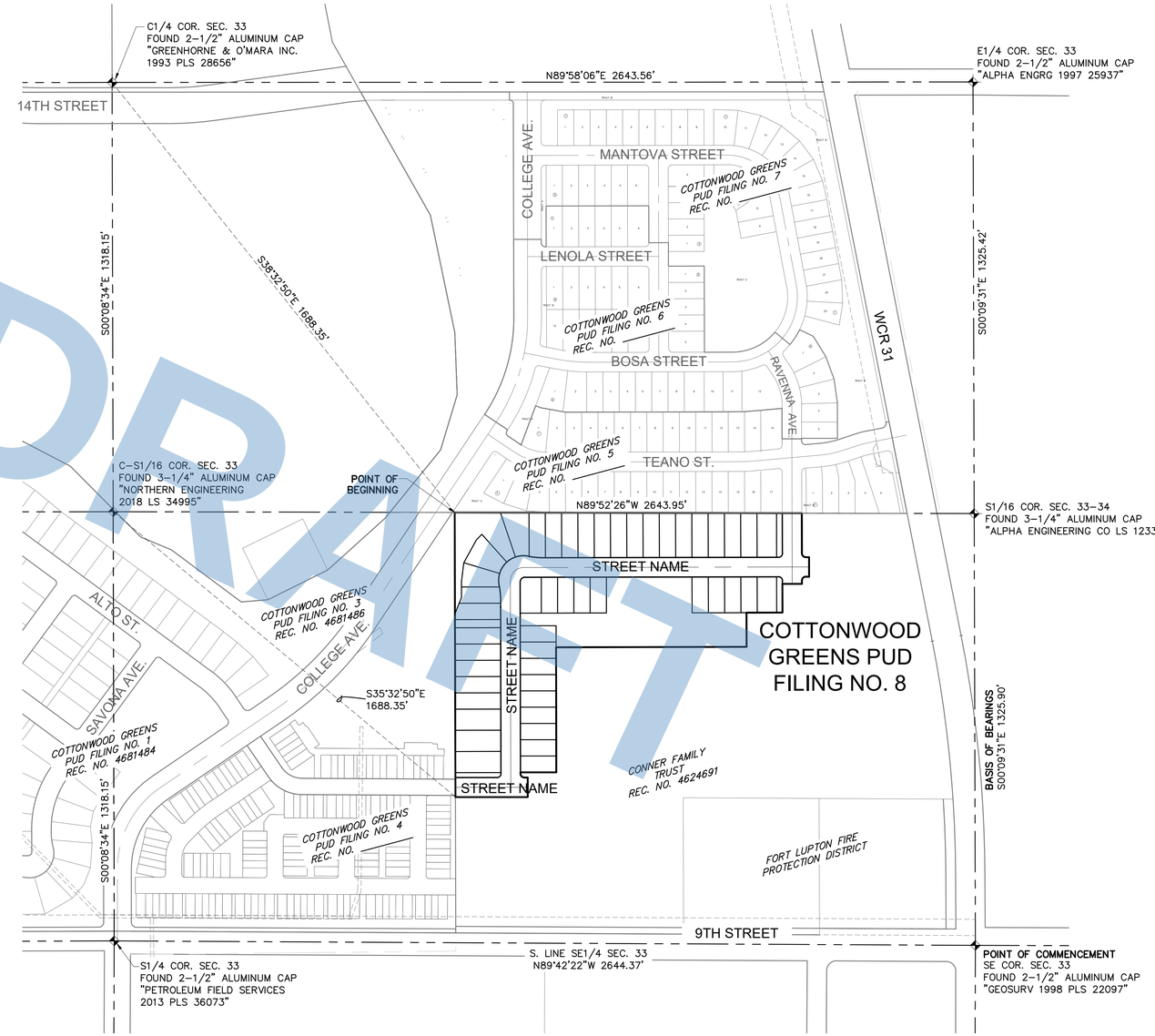
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COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,505	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	2,314	0.05	UTILITIES, OPEN SPACE	METRO DISTRICT
C	1,895	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
D	94,609	2.17	UTILITIES, OPEN SPACE	METRO DISTRICT
E	22,042	0.51	UTILITIES, OPEN SPACE	METRO DISTRICT
	124,365	2.85		
LOTS (47)	311,416	7.15		
RIGHT-OF-WAY	116,573	2.68		
TOTAL	552,354	12.68		



DRAFT

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 553,160 SQARE FEET, OR 12.70 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING SOUTH 00°09'31" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 3

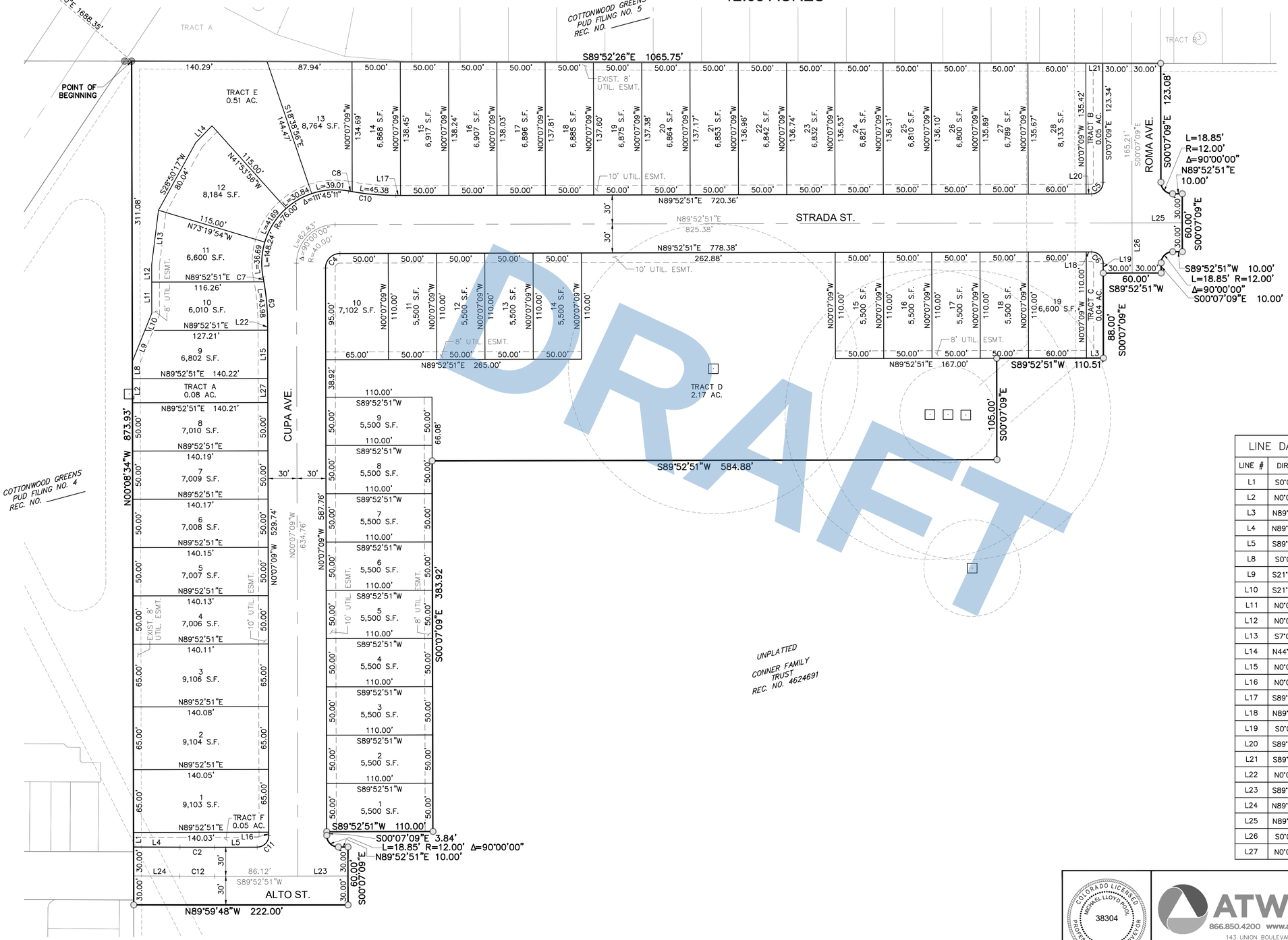
FILE NO.	21002209 CC FLC 8
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S0°08'34"E	15.02'
L2	N0°08'34"W	25.00'
L3	N89°52'51"E	17.51'
L4	N89°42'22"W	48.07'
L5	S89°52'51"W	44.12'
L8	S0°08'34"E	17.82'
L9	S21°54'31"W	34.71'
L10	S21°54'31"W	19.22'
L11	N0°07'09"W	32.18'
L12	N0°07'09"W	17.82'
L13	S7°04'12"W	57.05'
L14	N44°14'16"E	24.10'
L15	N0°07'09"W	50.00'
L16	N0°07'09"W	3.50'
L17	S89°52'51"W	4.85'
L18	N89°52'51"E	5.51'
L19	S0°07'09"E	10.00'
L20	S89°52'51"W	5.51'
L21	S89°52'26"E	17.51'
L22	N0°07'09"W	6.24'
L23	S89°52'51"W	52.00'
L24	N89°42'22"W	47.84'
L25	N89°52'51"E	52.00'
L26	S0°07'09"E	52.00'
L27	N0°07'09"W	25.00'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C2	0°24'47"	4970.00'	35.84'
C4	90°00'00"	15.00'	23.56'
C5	90°00'00"	12.00'	18.85'
C6	90°00'00"	12.00'	18.85'
C7	1°06'37"	258.00'	5.00'
C8	0°47'55"	258.00'	3.60'
C9	10°52'36"	258.00'	48.98'
C10	10°52'36"	258.00'	48.98'
C11	90°00'00"	12.00'	18.85'
C12	0°24'47"	5000.00'	36.05'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PONTIOUS
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
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303.462.1100

REVISIONS

SHEET 3 OF 3

FILE NO.	21002209 CC FLC 8
DATE	02/02/2022
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COTTONWOOD GREENS PUD FILING NO. 9

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 67°07'51" EAST 1137.10 FEET TO THE WEST LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTHWEST CORNER OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°59'48" EAST 222.00 FEET;
2. NORTH 00°07'09" WEST 60.00 FEET;
3. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
4. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
5. NORTH 00°07'09" WEST 3.84 FEET;
6. NORTH 89°52'51" EAST 110.00 FEET;
7. NORTH 00°07'09" WEST 383.92 FEET;
8. NORTH 89°52'51" EAST 584.88 FEET;
9. NORTH 00°07'09" WEST 105.00 FEET;
10. NORTH 89°52'51" EAST 110.51 FEET;
11. NORTH 00°07'09" WEST 88.00 FEET;
12. NORTH 89°52'51" EAST 60.00 FEET;

THENCE DEPARTING SAID SOUTHERLY LINE SOUTH 00°07'09" EAST 222.76 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37";

THENCE SOUTH 60°12'00" EAST 27.33 FEET;

THENCE SOUTH 29°48'00" WEST 60.00 FEET;

THENCE NORTH 60°12'00" WEST 27.25 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04";

THENCE SOUTH 42°57'02" EAST 107.80 FEET;

THENCE SOUTH 00°17'38" WEST 40.73 FEET TO THE BOUNDARY LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS;

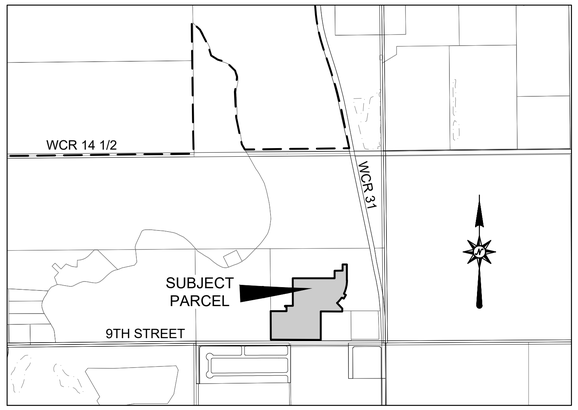
THENCE ALONG SAID BOUNDARY LINE AND ALONG THE NORTH AND WEST LINES OF SAID PARCEL OF LAND THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 301.01 FEET;
2. SOUTH 00°09'48" EAST 398.65 FEET TO THE SOUTH LINE OF SAID TRACT OF LAND;

THENCE ALONG SAID SOUTH LINE NORTH 89°42'22" WEST 699.60 FEET TO THE SOUTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG THE WEST LINE OF SAID CONNER FAMILY TRUST AND ALONG SAID EAST LINE NORTH 00°08'34" WEST 397.30 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 636,491 SQUARE FEET, OR 14.61 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 9, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 9 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

FILE NO.	21002209 CC FLG 9
DATE	01/12/2022
DRAWN BY	TWK
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,464	1.00	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,812	0.64	UTILITIES, OPEN SPACE	METRO DISTRICT
C	29,137	0.67	UTILITIES, OPEN SPACE	METRO DISTRICT
D	136,710	3.14	UTILITIES, OPEN SPACE	METRO DISTRICT
E	1,091	0.03	UTILITIES, OPEN SPACE	METRO DISTRICT
	241,213	5.48		
LOTS (36)	245,482	5.69		
RIGHT-OF-WAY	149,796	3.44		
TOTAL	636,491	14.61		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

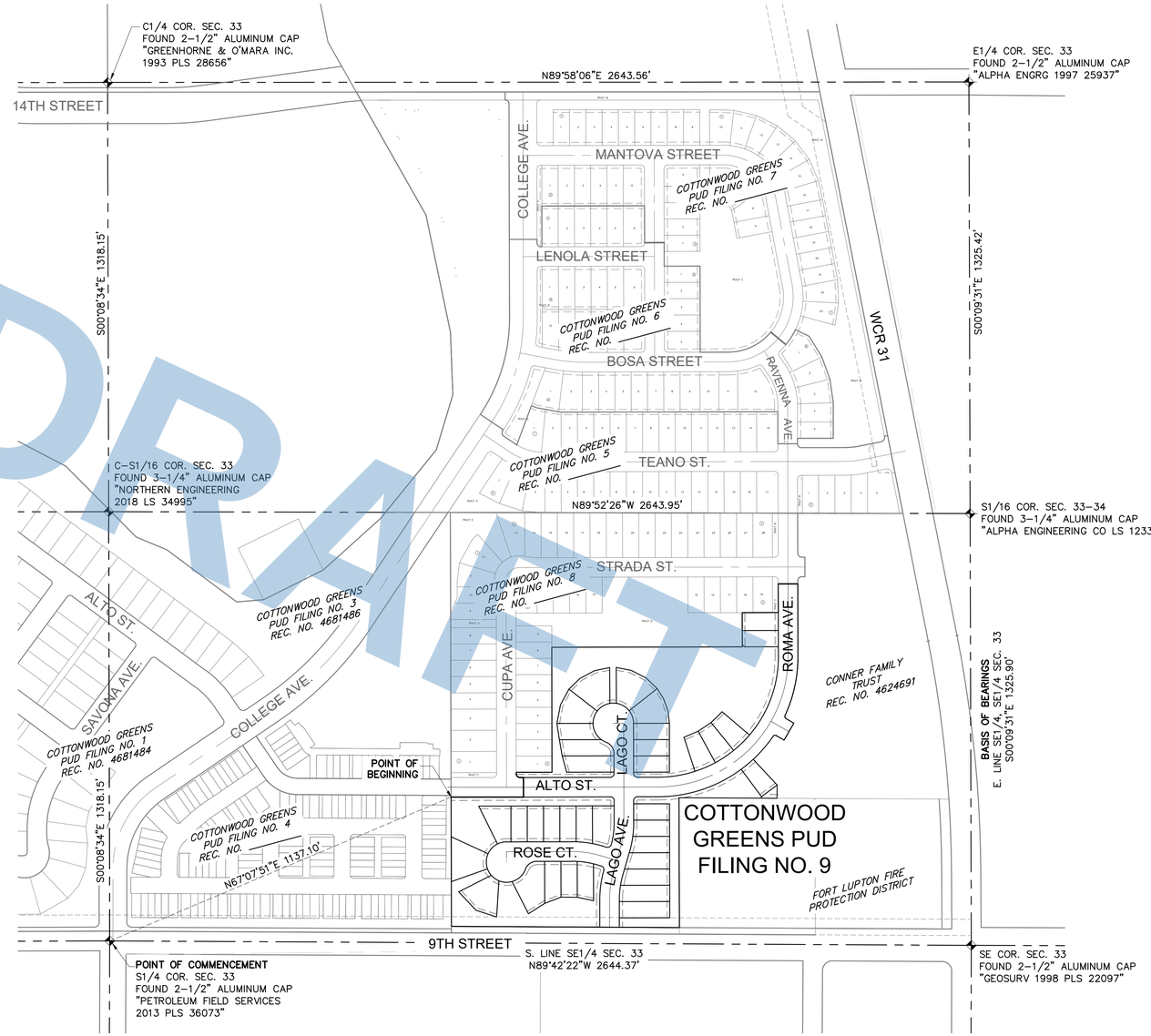
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

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REVISIONS

SHEET 2 OF 3

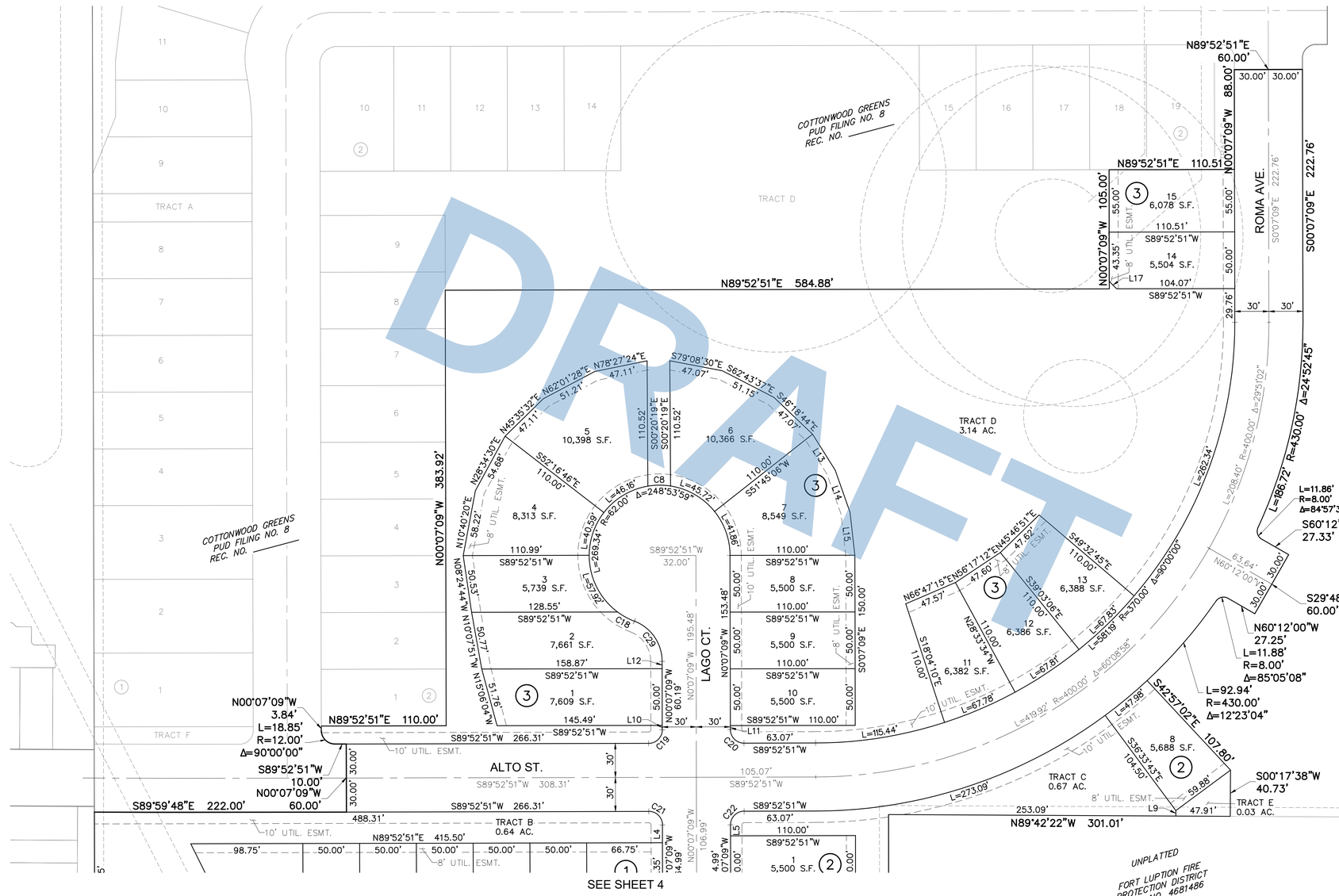
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DATE	01/12/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

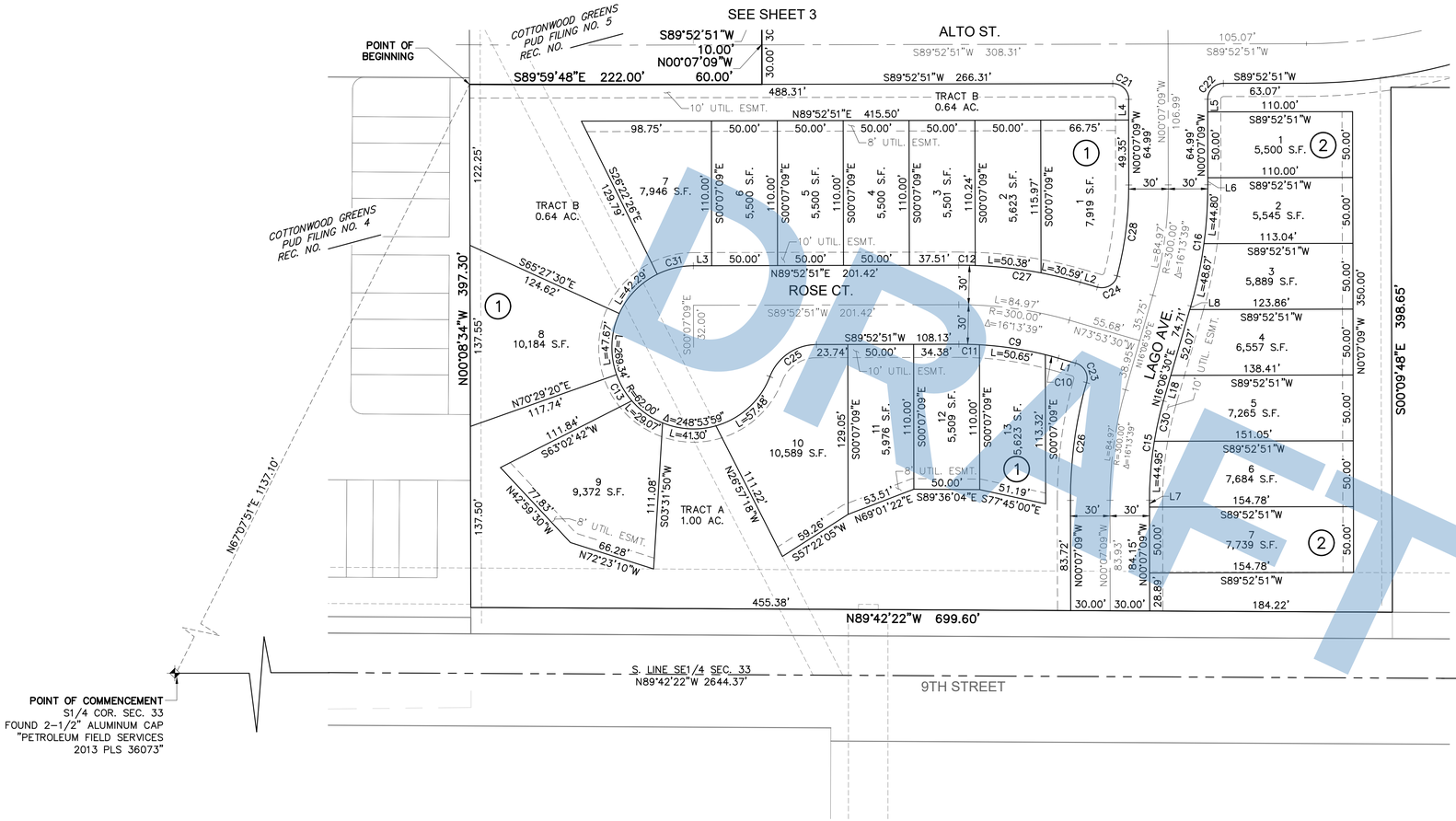
PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX


N89°52'51"E 60.00'
30.00' 30.00'
N00°07'09"W 88.00'
ROMA AVE.
S00°07'09"E 222.76'
COTTONWOOD GREENS PUD FILING NO. 8 REC. NO.
TRACT D
N89°52'51"E 110.51'
105.00'
55.00'
3
15
6,078 S.F.
110.51'
S89°52'51"W
8' UTIL. ESMT.
43.35'
14
5,504 S.F.
L17
104.07'
S89°52'51"W
N89°52'51"E 584.88'
29.76'
30' 30'
L=430.00' Δ=24°52'45"
TRACT A
TRACT F
TRACT C
0.67 AC.
TRACT D
3.14 AC.
TRACT E
0.03 AC.
TRACT B
0.64 AC.
N00°07'09"W 383.92'
N00°07'09"W 3.84'
L=18.85'
R=12.00'
Δ=90°00'00"
S89°52'51"W 10.00'
N00°07'09"W 30.00'
N89°52'51"E 110.00'
S89°59'48"E 222.00'
N00°07'09"W 60.00'
ALTO ST.
S89°52'51"W 308.31'
S89°52'51"W 266.31'
10' UTIL. ESMT.
488.31'
N89°52'51"E 415.50'
8' UTIL. ESMT.
98.75' 50.00' 50.00' 50.00' 50.00' 66.75'
5' 35'
N00°07'09"W 106.99'
N00°07'09"W 14.99'
4.99'
0.00'
S89°52'51"W 63.07'
110.00'
S89°52'51"W
1
5,500 S.F.
2
0.00'
N00°07'09"W 195.48'
LAGO CT.
S0°07'09"E
153.48'
150.00'
50.00'
110.00'
S89°52'51"W
8
5,500 S.F.
9
5,500 S.F.
10
5,500 S.F.
S89°52'51"W 110.00'
L=115.44'
63.07'
S89°52'51"W
L=273.09'
253.09'
N89°42'22"W 301.01'
L=262.34'
L=208.46' R=400.00' Δ=29°51'02"
L=186.72' R=430.00' Δ=24°52'45"
L=11.86'
R=8.00'
Δ=84°57'37"
S60°12'00"E
27.33'
63.64'
N60°12'00"W
30.00'
S29°48'00"W
60.00'
N60°12'00"W
27.25'
L=11.88'
R=8.00'
Δ=85°05'08"
L=92.94'
R=430.00'
Δ=12°23'04"
S42°57'02"E 107.80'
S00°17'38"W
40.73'
L=419.92' R=400.00' Δ=60°08'38"
L=67.81'
L=67.78'
L=47.98'
L=47.91'
S36°33'43"E
104.50'
59.88'
S18°04'10"E 110.00'
N28°33'34"W 110.00'
S39°03'06"E 110.00'
S49°32'45"E 110.00'
N66°47'15"E N56°17'12"E N45°45'51"E
47.62' 47.60' 47.57'
L=56.19
R=370.00'
Δ=90°00'00"
UNPLATTED
CONNER FAMILY TRUST
REC. NO. 2177392
UNPLATTED
FORT LUPTON FIRE PROTECTION DISTRICT
REC. NO. 4681486
SEE SHEET 4
N45°35'32"E N62°01'28"E N78°27'24"E
47.11' 51.21' 47.11'
S79°08'30"E S62°43'37"E S46°18'44"E
47.07' 51.15' 47.07'
N28°34'30"E 54.68'
S52°16'46"E 110.00'
N10°40'20"E 58.22'
C8 L=46.16' L=45.72'
R=62.00' Δ=248°53'59"
L=40.59'
L=269.34'
L=57.39'
C16 C23
N00°07'09"W 50.53'
N10°07'51"W 50.77'
N15°06'04"W 51.76'
S89°52'51"W 32.00'
110.99'
S89°52'51"W
3
5,739 S.F.
128.55'
S89°52'51"W
2
7,661 S.F.
158.87'
S89°52'51"W
1
7,609 S.F.
145.49'
L12
L10
C19
C21
C22
L4
L5
L13
L14
L15
110.52'
S00°20'19"E
110.52'
S00°20'19"E
6
10,366 S.F.
5
10,398 S.F.
7
8,549 S.F.
4
8,313 S.F.
110.00'
S51°45'06"W
L=41.86'
L=67.83'
L=56.19'
R=370.00'
Δ=90°00'00"
L=262.34'
L=208.46' R=400.00' Δ=29°51'02"
L=419.92' R=400.00' Δ=60°08'38"
L=67.81'
L=67.78'
L=47.98'
L=47.91'
S36°33'43"E
104.50'
59.88'
S18°04'10"E 110.00'
N28°33'34"W 110.00'
S39°03'06"E 110.00'
S49°32'45"E 110.00'
N66°47'15"E N56°17'12"E N45°45'51"E
47.62' 47.60' 47.57'
L=56.19
R=370.00'
Δ=90°00'00"
L=262.34'
L=208.46' R=400.00' Δ=29°51'02"
L=186.72' R=430.00' Δ=24°52'45"
L=11.86'
R=8.00'
Δ=84°57'37"
S60°12'00"E
27.33'
63.64'
N60°12'00"W
30.00'
S29°48'00"W
60.00'
N60°12'00"W
27.25'
L=11.88'
R=8.00'
Δ=85°05'08"
L=92.94'
R=430.00'
Δ=12°23'04"
S42°57'02"E 107.80'
S00°17'38"W
40.73'
L=419.92' R=400.00'

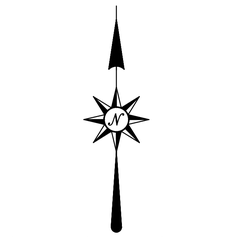
COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT



- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N73°53'30"W	13.69'
L2	N73°53'30"W	13.60'
L3	S89°52'51"W	13.91'
L4	N0°07'09"W	15.64'
L5	S0°07'09"E	9.65'
L6	S0°07'09"E	5.34'
L7	N0°07'09"W	5.26'
L8	N16°06'30"E	2.54'
L9	S0°17'38"W	4.82'
L10	N0°07'09"W	3.84'
L11	N0°07'09"W	3.48'
L12	N0°07'09"W	6.35'
L13	N32°12'21"W	37.40'
L14	N19°23'50"W	39.34'
L15	N6°28'30"W	38.08'
L17	N44°09'34"W	9.25'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C8	18°33'49"	62.00'	20.09'
C9	16°13'39"	270.00'	76.47'
C10	2°09'45"	270.00'	10.19'
C11	3°18'56"	270.00'	15.62'
C12	2°10'09"	330.00'	12.49'
C13	21°20'53"	62.00'	23.10'
C15	16°13'39"	270.00'	76.47'
C16	16°13'39"	330.00'	93.46'
C18	15°42'19"	62.00'	16.99'
C19	90°00'00"	12.00'	18.85'
C20	90°00'00"	12.00'	18.85'
C21	90°00'00"	12.00'	18.85'
C22	90°00'00"	12.00'	18.85'
C23	89°29'22"	12.00'	18.74'
C24	91°23'15"	12.00'	19.14'
C25	68°53'59"	38.00'	45.70'
C26	15°43'01"	330.00'	90.52'
C27	16°13'39"	330.00'	93.46'
C28	14°50'25"	270.00'	69.93'
C29	68°53'59"	38.00'	45.70'
C30	6°41'21"	270.00'	31.52'

COLORADO LICENSED
MICHAEL LLOYD PEOU
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 4

FILE NO. 21002209 CC FLG 8
DATE 10/XX/2021
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002209

K:\21002209\Shp\Survey\FLG 8\21002209_CC FLG 8_FINAL PLAT.dwg, SHT 4, 2/7/2022 2:37:21 PM

COTTONWOOD GREENS PUD FILING NO. 10

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33;

THENCE NORTH 08°41'56" WEST 454.22 FEET TO A CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 3220873, WELD COUNTY RECORDS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID CONNER FAMILY TRUST AND ALONG THE NORTH LINE OF SAID PARCEL OF LAND AND THEN ALONG THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS NORTH 89°42'22" WEST 527.55 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 9, RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTH LINES AND ALONG SAID EASTERLY LINE THE FOLLOWING TEN (10) COURSES:

1. NORTH 00°17'38" EAST 40.73 FEET;
2. NORTH 42°57'02" WEST 107.80 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET AND A CENTER WHICH BEARS NORTH 42°54'05" WEST;
3. 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
4. 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08";
5. SOUTH 60°12'00" EAST 27.25 FEET;
6. NORTH 29°48'00" EAST 60.00 FEET;
7. NORTH 60°12'00" WEST 27.33 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
8. 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET;
9. 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45"
10. NORTH 00°07'09" WEST 222.76 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 9 AND ALONG THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING SEVEN (7) COURSES:

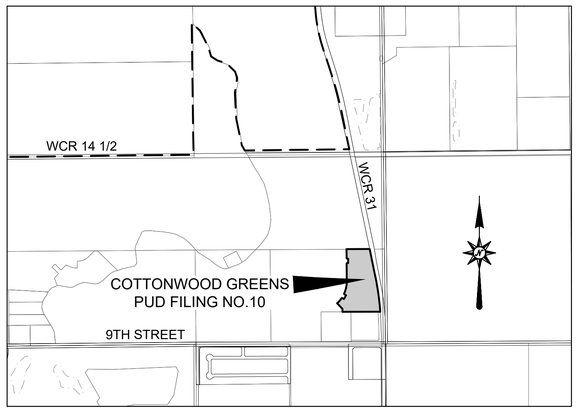
1. NORTH 00°07'09" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
2. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. NORTH 89°52'51" EAST 10.00 FEET;
4. NORTH 00°07'09" WEST 60.00 FEET;
5. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
7. NORTH 00°07'09" WEST 123.08 FEET TO THE NORTH LINE OF SAID TRACT OF LAND, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE ALONG SAID NORTH AND SOUTH LINES SOUTH 89°52'26" EAST 323.53 FEET TO THE EASTERLY LINE OF SAID TRACT OF LAND, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31;

THENCE ALONG SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°10'31" EAST 399.80 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08" TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 374,010 SQUARE FEET, OR 8.59 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 10, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 10 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 4

FILE NO.	21002209 CC FLG 10
DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

K:\21002209\SHWS\Survey\FLG 10\21002209_CC FLG 10 FINAL PLAT.dwg, PLAT COVER, 2/2/2022 8:33:17 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	42,431	0.97	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,814	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	37,154	0.85	UTILITIES, OPEN SPACE	METRO DISTRICT
D	2,496	0.06	UTILITIES, OPEN SPACE	METRO DISTRICT
E	8,894	0.20	UTILITIES, OPEN SPACE	METRO DISTRICT
	92,728	2.12		
LOTS (34)	211,090	4.85		
RIGHT-OF-WAY	60,754	1.39		
TOTAL	374,010	8.59		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

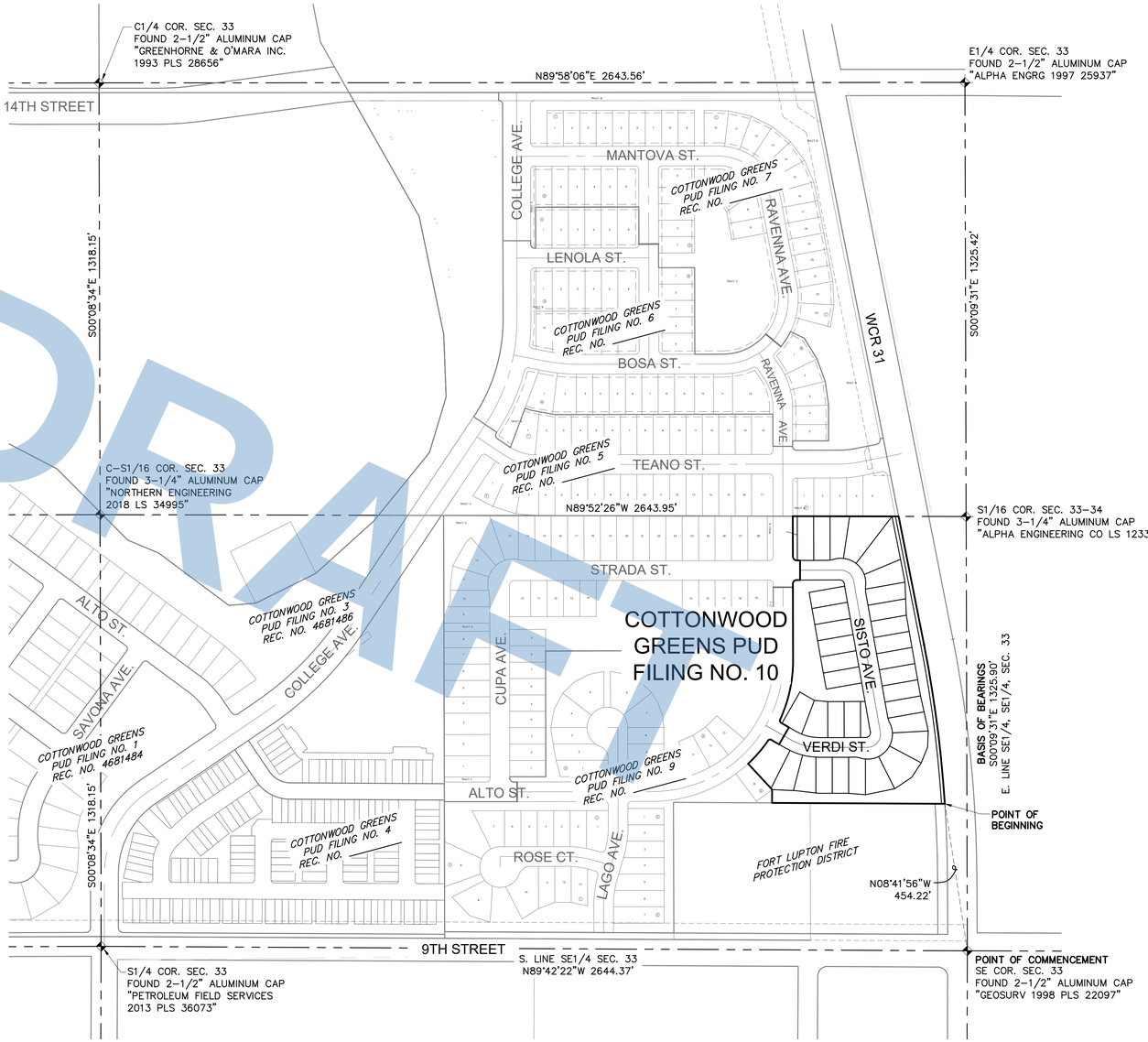
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 4

FILE NO.	21002209 CG FIG 10
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

DRAFT

K:\21002209\DWG\Survey\FIG 10\21002209_CG FIG 10_FINAL PLAT.dwg, SHT 2, 2/2/2022 8:33:19 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX


S89°52'26"E 323.53'
S1/16 COR. SEC. 33-34
FOUND 3-1/4" ALUMINUM CAP
"ALPHA ENGINEERING CO LS 12330"
EXIST. 8' UTIL. ESMT.
TRACT B
0.04 AC.
TRACT B
TRACT C
TRACT C
0.85 AC.
TRACT E
0.20 AC.
TRACT A
0.97 AC.
TRACT A
0.97 AC.
N00°07'09"W 123.08'
N00°07'09"W 135.03'
N00°07'09"W 134.81'
N00°07'09"W 133.98'
S08°28'09"W 130.22'
S37°23'12"W 181.09'
N11°09'18"W 133.53'
S11°10'31"E 399.80'
S17°10'31"E 401.79'
S21°17'33"E 100.91'
L=18.85'
R=12.00'
Δ=90°00'00"
S89°52'51"W 10.00'
N00°07'09"W 60.00'
N89°52'51"E 10.00'
STRADA ST.
N89°52'51"E 120.19'
L=18.85'
R=12.00'
Δ=90°00'00"
10' UTIL. ESMT.
8' UTIL. ESMT.
N89°52'51"E 81.83'
N89°52'51"E 124.39'
L=55.94'
Δ=80°07'45"
R=40.00'
L=42.03'
R=76.00'
Δ=12°42'35"
L=35.20'
Δ=112°15'17"
R=18.00'
L=42.03'
L=148.86'
L=148.88'
41.66'
40.17'
50.00'
60.15'
129.33'
50.00'
50.00'
120.31'
S67°15'22"W
71.21'
122.62'
N80°00'36"E
116.76'
110.00'
110.00'
110.00

City Council Meeting
Date:
Staff:

AM 2022-113
Consent Agenda☐
Action Memorandum☒
Public Hearing☐

SUBJECT FOR DISCUSSION

Upgrade Electrical Service To 400A in the City Hall Building for a total of $123,200.00 Allocated From the General Fund.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

The City Hall building currently has a 200A circuit from United Power coming into the building. This circuit is near full capacity and needs to be upgraded to a 400A circuit. This upgrade will allow for further buildouts within the City Hall/PD to completed and have efficient power.

The proposal from DP Guardian for the power upgrade will include and accommodate the following.

1. Demo of existing equipment and removal of wire
2. Crew of three (3) people totaling 4 days of work
3. Some work can be included prior to needing to cut the power, including mounting the new basement panel and excavating a new route to the basement. Minimal excavation will be needed for this job, as it's just one run needing to be dug. Time is also accounted for core drill, sealing, and backfilling the excavation.
4. The following equipment is included in the estimate: **lead time for these panels is currently** unknown
    a. New 400a CT Cabinet and attached Demand Meter
    b. New 400A 208/120v 3-phase NEMA 3 Panel (located outside replacing the 2 removed disconnects)
    c. New 225A 208/120V – phase NEMA 1 Panel (in basement)
5. Existing conduit runs are re-used where requested, including to pole mounted power company transformer and new conduit runs are accounted for with the installation of the new panels.
6. We estimate that the power will need to be rerouted/off for four (4) days during this process (running on the generator).
7. Estimate a ½ day of power outage for the cutover to complete. We are planning a later afternoon on a Friday to do this cutover.

This is in addition to the already approved IT Department Build out and will benefit the entire City Hall/PD building for further growth.

FINANCIAL CONSIDERATIONS

The General Fund has $350,000 budgeted for City Hall renovations, not including the data center. The estimated final cost or the City Hall renovations is $131,850. Leaving $218,150 available to cover the short fall in the data center budget.

LEGAL/POLITICAL CONSIDERATIONS

Contract is subject to approval by City Attorney

ALTERNATIVES/OPTIONS

STAFF RECOMMENDATIONS

Attachments: a. DP Guardian Proposal

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

DP GUARDIAN

BEST PRACTICE FOR COMPUTER ROOMS

PROPOSAL

PREPARED FOR:

Travis Aksamitowski

(City of Ft. Lupton)

SITE:

130 McKinley Ave. Ft. Lupton, CO 80621

SUBMITTED BY:

Kellen Troino

ktroino@dpguardian.com

(904) 451-1331

INFORMATION PROVIDED:

June 30, 2022

Founded in 1992, DP Guardian has many years of experience providing proper and thorough cleaning maintenance in critical environments, data centers, NOCs, and switch rooms. Over that time, we have evolved and matured our service offering as well as our organization, while staying true to our core of providing the highest quality service at an unbeatable value for our customers.

Dear Mr. Aksamitowski,

As always, thank you for the opportunity to service Ft. Lupton's critical space needs at 130 McKinley Ave. Ft. Lupton, CO 80621. This year DP Guardian celebrates 30 years of service in critical environments. We proudly serve the critical environments of hundreds of computing facilities, labs, and clean rooms across the US.

Why choose DP Guardian?

- An astute understanding of the data center environment, second to none in our industry nationwide
- The mature evolution of our procedures since 1992 – there is no substitute for experience
- A well-developed training program and career path for technicians
- Our services are guaranteed to meet or exceed your expectations

Our goal is to provide a thoughtful and feasible service offering for you and all who are responsible for vendor selection. I am confident that our experience, flexibility, and attention to detail will ensure a better customer experience than any other option available.

Please find a detailed scope of work and pricing provided below. We look forward to your favorable review and consideration of this proposal. I may be reached at the listed number if you would like to engage us for this project or have any other questions.

Respectfully,



Jon deRidder
Chief Executive Officer
DP Guardian, Inc.
303.783.0191

SCOPE OF WORK

- Decommissioning and removal of existing 200a equipment and cabling.
- Installation of new 400a feed, equipment and cabling, utilizing the existing conduit where possible.
- Work that can be completed prior to full power cut will be done to minimize impact.
    - Includes mounting the new basement panel and excavating a new route to the basement.
- Our best estimation is that utility power will need to be disconnected for 4 days during this process.

Included/ Excluded Items:

- Includes new 400a CT Cabinet and attached Demand Meter
- Includes new 400A 208/120v 3-phase NEMA 3 Panel (located outside replacing the 2 removed disconnects)
- Includes new 225A 208/120V- phase NEMA 1 Panel (in basement)
- Includes utilization of existing conduit runs where requested, including to pole mounted power company transformer. New conduit runs are accounted for with the installation of the new panels.

DP GUARDIAN

PRICING DETAIL

Demo of existing 200A power service and upgrade to 400A	PRICE	TAX
Materials and Labor	121,000.00	$ N/A
Freight	2,200	$ N/A
Project Total	**$ 123,200.00**	

NO TAX IS APPLIED.

FINANCIAL TERMS

PAYMENT PREFERENCE (Select One)

❑ Company Check ❑ ACH Transfer

- Fifty percent of the project total must be paid upfront. The remaining project amount is due and payable thirty (30) days from the invoice date.
- Quoted prices apply for payments by company check or ACH (Automatic Clearing House) Funds Transfer.
- For credit card purchases, a nominal 3% surcharge will be added to help cover processing costs.

CLARIFICATIONS & EXCEPTIONS

- Pricing assumes that work is to be completed during the hours of 8am – 5pm Monday to Friday.
- All results are guaranteed to meet or exceed client's expectations, as expressed in the DP Guardian Service Agreement.
- Please inform security, facilities, and/or operations personnel of scheduled work dates.
- Please disable fire suppression, water detection, and VESDA systems (if applicable) in advance of our arrival.
- DP Guardian is currently insured to the following limits of liability:

Workers Compensation	$1,000,000
General Liability	$2,000,000
Automobile Liability	$1,000,000
Umbrella Coverage	$5,000,000

  If your organization requires additional coverage or liability limits beyond these levels, we reserve the right to amend pricing to cover additional costs incurred to serve your organization. A certificate of insurance will be provided upon request.
- Pricing takes into consideration the generally accepted contractual requirements of our customer base. If your organization has specific requirements beyond those generally accepted, we reserve the right to increase our proposed prices to cover additional costs associated with meeting such requirements.
- Services are non-taxable unless recognized to the contrary. Sales tax and shipping charges shall apply to products purchased from DP Guardian unless evidence of exemption is provided at the time of order.

TERMS & CONDITIONS

DP Guardian shall:

- Provide all materials, equipment, uniformed personnel, and supervision needed to complete the contracted services in a quality and timely fashion.
- Submit all personnel to state and federal background checks and substance abuse testing as a condition of employment
- Perform all work to DP Guardian and OSHA jobsite safety standards without compromise
- Comply with all customer safety and security requirements
- Pay for repair or replacement of any customer equipment damaged as a result of gross negligence or malicious intent of any DP Guardian employee or agent while performing as outlined in this proposal
- **Be limited to responsibility and liability for the work specified above. DP Guardian shall not be liable for any loss of processing time by customer or other consequential or special damages**
- Provide MSDS information for all cleaning agents employed in performing the work
- Walk the facility with customer representative at completion for satisfaction and signed acceptance of our work

Customer shall:

- Facilitate DP Guardian for unloading and setup, provide a clean water source and drain, and identify non-UPS electrical outlets safe for our use
- Disable fire suppression, leak detection, and “sniffer system” (if applicable) prior to our arrival
- Remove all stored items or materials in the work area that would hinder or slow down DP Guardian Technicians
- Indemnify and hold harmless DP Guardian, Inc. from all claims, losses, liabilities, and damages, including but not limited to, loss of computer processing time in the event of any mishaps during the performance of all services outlined in this proposal
- In the event of cancellation with less than 72 hours’ notice, reimburse DP Guardian for costs associated with paying our employees for lost income, as well as non-recoverable costs (not to exceed $500)

This proposal is in effect for thirty (30) days from proposal date and can be extended only at the option of the company.

Kellen Troino
Vice President of Operations

DP Guardian, Inc.
PO Box 270468
Littleton, CO 80127
krtroinog@dpguardian.com
www.dpguardian.com
303.783.0191 (main)
303.783.0193 (fax)

(to be signed & returned by authorized personnel)

Signature Date

Print Name and Title

City Council Meeting
Date: July 5, 2022
Staff: Maria Lancto – Planner I

AM 2022-109
Consent Agenda☐
Action Memorandum☒
Public Hearing☐

SUBJECT FOR DISCUSSION

A Resolution Approving a Final Plat, Known as The Flats at Lupton Village PUD Final Plat for the City Council's Consideration. The Proposed Final Plat is for a Mixed-Use Subdivision That Will Include 120 Single-Family Attached Residential Lots and 1 General Commercial Lot. The Subdivision Includes Greenspace Amenity Areas and Connects to the Regional Trial Network. The Property That is the Subject of the Final Plat is Located at the Northeast Corner of S Denver Avenue and County Road 12.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

The applicant, Baessler Development Group, has applied for approval of a Final Plat, known as The Flats at Lupton Village PUD Final Plat for the City Council's consideration. The proposed Final Plat is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The Property that is the subject of the Final Plat is located at the northeast corner of S Denver Avenue and County Road 12 (the Property).

The applicant submitted a concurrent rezoning request to PUD Planned Unit Development for this property that was reviewed by City Council at a separate public hearing. A Preliminary Plat and PUD Plan was also submitted for concurrent review.

FINANCIAL CONSIDERATIONS

The Applicant has paid all applicable land use application fees and is covering ongoing review expenses.

LEGAL/POLITICAL CONSIDERATIONS

This PUD final plat is being reviewed under the final plat provisions of the code in the Subdivision Regulations. Section 17-23 states that a final plat is to be reviewed by City Council, and does not require Planning Commission review. The Code requires that a subdivision improvements agreement be submitted by the applicant for review by the City Attorney and City Council. A subdivision improvements agreement has been addressed in the conditions of approval included on the proposed resolution.

This is the final step in the major subdivision process. The first step is approval of a PUD sketch plat (reviewed and approved on December 21, 2021), and the second step is approval of the PUD preliminary plat applied for concurrently with this request, as permitted under the Fort Lupton Municipal Code.

Notifications are not required for a final plat; however, referral agencies were provided with the submittal documents for review. All referral comments received are enclosed with this Action Memorandum.

ALTERNATIVES/OPTIONS

The City Council has the following three options for each request:

a) Approve the proposed resolution.
b) Approve the proposed resolution with conditions.
c) Continue the hearing for additional information or further study.
d) Deny the proposed resolution.

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

STAFF RECOMMENDATIONS

Staff recommends conditional approval of The Flats at Lupton Village PUD Final Plat.

Attachments:

a. Proposed Resolution
b. Planning Commission Resolution
c. Planning Commission Minutes
d. Staff Report
e. Land Use Application
f. Project Description
g. Preliminary Plat and PUD Plan (for reference)
h. Final Plat
i. Construction Documents
j. Drainage Analysis
k. Traffic Impact Study
l. Hydraulic Report
m. Water Dedication Letter
n. Referral Responses
o. Legal Notifications

RESOLUTION NO. 2022Rxxx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE FINAL PLAT OF THE FLATS AT LUPTON VILLAGE PUD FOR A MIXED-USE SUBDIVISION LOCATED IN PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, Baessler Development Group ("Applicant") has applied for approval of the Final Plat of the Flats at Lupton Village PUD for a mixed-use subdivision with 120 single-family attached residential lots with 1 general commercial lot; and

WHEREAS, the Fort Lupton City Council held a public hearing on July 5, 2022, for the purpose of reviewing The Flats at Lupton Village PUD Final Plat; and

WHEREAS, after review of the application for a Final Plat, and consideration of staff comments, Applicant's presentation, and any public input, the City Council finds that the Final Plat is in conformance with the Colorado Revised Statutes, City codes and policies, and Comprehensive Plan adopted by the City; and

NOW THEREFORE BE IT RESOLVED that the Fort Lupton City Council reviewed the plans and supporting documentation, all referral comments and any citizen input in response to this application. Based upon review of the applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Subdivision and Zoning Regulations, an analysis of referral comments and facts presented on this date, the City Council hereby recommends approval of The Flats at Lupton Village PUD Final Plat located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to recording the Final Plat:

   a. The title of the Final Plat shall be updated to include the Project No. LUP2022-0006 and Plan No. FPL2022-0001.

   b. Any redlines provided by City staff shall be made to the Final Plat maps.

   c. The Applicant shall work with City staff to finalize the street names within the development.

   d. Applicant shall submit cash-in-lieu or transfer appropriate water shares.

e. The Applicant shall provide written evidence that the comments from Public Service Company of Colorado dba Xcel Energy have been adequately addressed.

f. The Applicant shall provide written acknowledgement of the comments from the Fort Lupton Fire Protection District.

g. The Applicant shall provide written evidence that the comments from United Power have been adequately addressed.

h. The Applicant shall provide written evidence that the comments from the Public Works Director have been adequately addressed.

i. The applicant shall finalize a subdivision improvements agreement for review by City staff and approval by City Council.

j. The internal road will be a private street maintained by the Homeowners Association or Metro District unless specifically accepted as right-of-way by City Council. The Plat should be modified as appropriate.

k. Applicant shall provide evidence that the Metro District will be maintaining private roads, landscape and park amenities.

2. Prior to building permits:

a. One set of mylars of the Final Plat shall be submitted for recording with the Weld County Clerk & Recorder. One set of mylars of the Preliminary Plat shall also be submitted.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO THIS 5TH DAY OF JULY, 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RESOLUTION NO. P2022-013

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF THE FLATS AT LUPTON VILLAGE PUD PRELIMINARY PLAT AND PRELIMINARY PUD PLAN FOR A MULTI-USE SUBDIVISION LOCATED IN PART OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on June 23, 2022, for the purpose of reviewing The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan; and

WHEREAS, The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan proposes to develop a property for a mixed-use subdivision with 120 single-family attached residential lots and 1 general commercial lot; and

WHEREAS, after review of the application for The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan, and consideration of staff comments, applicant's presentation, and any public input, the Planning Commission finds the request for The Flats at Lupton Village PUD Preliminary Plat and Preliminary PUD Plan conforms with City codes, and requirements and policies therein; and

WHEREAS, all legal requirements for the public hearing have been met, including mailing of public hearing notices to adjacent property owners within 500 feet; and

NOW THEREFORE BE IT RESOLVED, the Planning Commission has considered the application and has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to finalizing the PUD Preliminary Plat:

A. The title of the Preliminary Plat shall include the Project No.: LUP2022-0006 & Plan No.: PPL2022-0001

B. Any redline comments provided by City staff shall be made to the Preliminary Plat and Preliminary PUD Plan.

C. The Applicant shall work with City staff to finalize the street names within the development.

II. As part of the Final Plat Application:

A. The Applicant shall address the comments from Public Service Company of Colorado dba Xcel Energy.

B. The Applicant shall address the comments from the Fort Lupton Fire Protection District.

C. Applicant shall adequately address the comments from United Power.

D. Applicant shall adequately address the comments from the Public Works Director.

DONE THIS 23rd DAY OF JUNE, 2022 BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.

Chairman

ATTEST:

Planning Director

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

THE FLATS AT LUPTON VILLAGE PUD FINAL PLAT & PUD PLAN STAFF REPORT
LUP2022-0006 & PLAN NO. FPL2022-0001

PROJECT DESCRIPTION

Project No.: LUP2022-0006 / Plan No.: FPL2022-0001

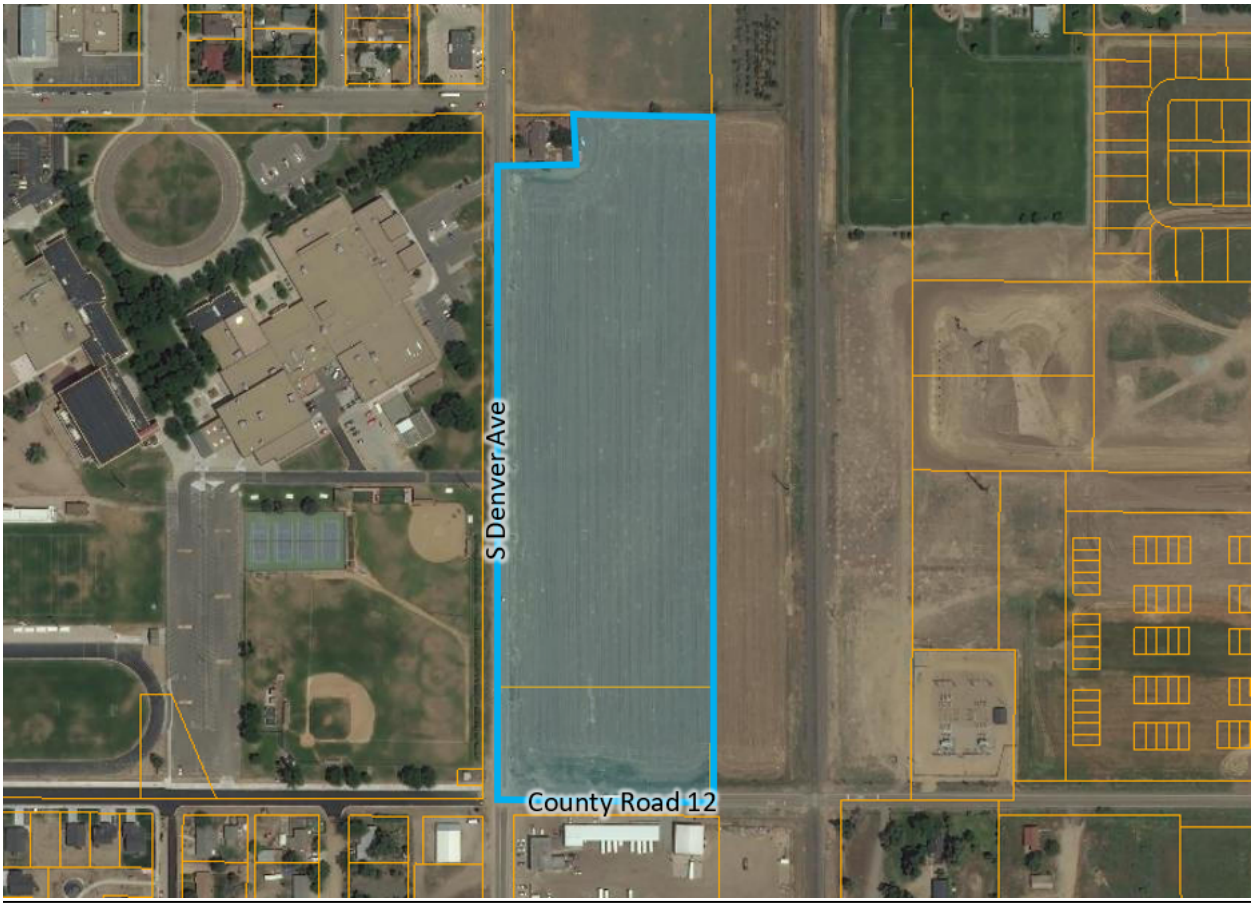
Project Name: The Flats at Lupton Village PUD Final Plat & PUD Plan

Owner's Name: Fort Lupton Commercial General Partnership

Representative: Mitchell Nelson with Baessler Development Group ("Applicant")

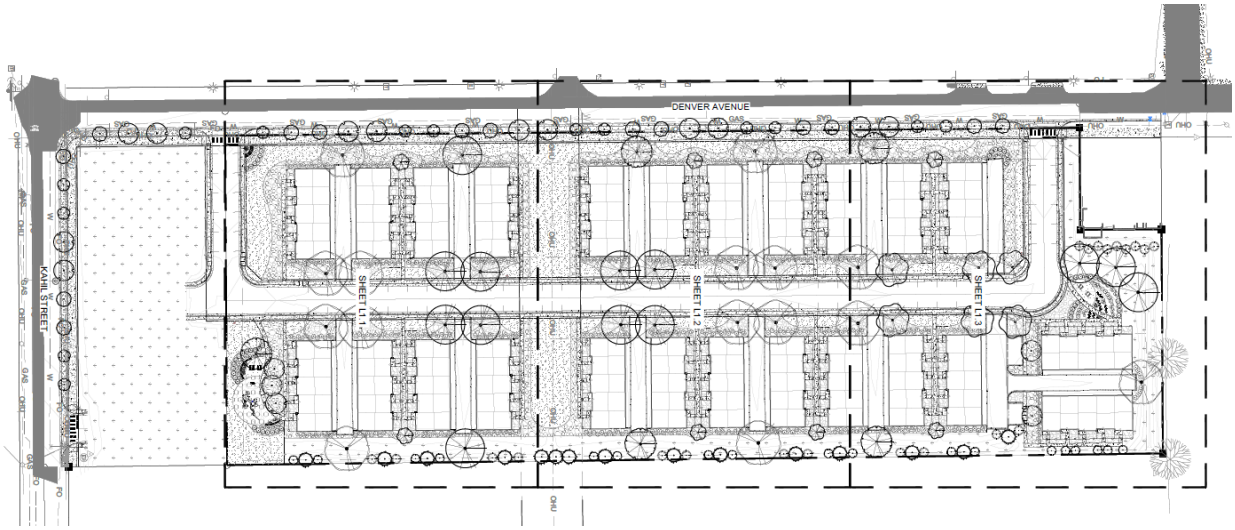
Location of Request:

The site is located at the northeast corner of S Denver Avenue and County Road 12 (the Property). The Property is located in Part of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Nature of Request:

The Applicant has submitted a request for a final plat for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. A final PUD plan has also been submitted and is being reviewed with this application. Rezoning to the PUD zone district and a Preliminary Plat have also been requested.



Site Size: 13.315 acres, more or less.

Zone District: 'PUD' Planned Unit Development (if the proposed concurrent request for a change of zone from the C-1 General Commercial and R-O Residential and Office Zone Districts is approved by Planning Commission and City Council).

Proposed Use: A mixed use subdivision to include commercial and single-family attached residential lots with associated landscaping, infrastructure, and drainage.

Existing Use: Vacant/Agricultural

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions, as shown on the proposed resolution.

SUMMARY OF PREVIOUS APPLICATIONS

A Sketch Plat and Sketch PUD Plan was reviewed and approved by City Council on December 21, 2021.

APPLICATION PROCESS

The Applicant is requesting approval of a final plat for the Flats at Lupton Village PUD. Pursuant to Section 16-45(c)(3) of the Fort Lupton Municipal Code (FLMC), except as specifically provided in said Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major

subdivisions, including all preapplication conferences, sketch PUD plan, preliminary PUD plan and final PUD plan applications, public hearings and recording with the County Clerk and Recorder.

Section 17-23 states that a final plat is to be reviewed by City Council at a public meeting. A final plat does not require Planning Commission review. The Code requires that a subdivision improvements agreement be submitted by the applicant for review by the City Attorney and City Council. A subdivision improvements agreement has been addressed in the conditions of approval included on the proposed resolution.

This is the final step in the major subdivision process. The first step is approval of a sketch PUD plat (reviewed and approved on December 21, 2021), and the second step is approval of the preliminary PUD plat (reviewed concurrently).

NOTIFICATION REQUIREMENTS

Notifications are not required for a final plat, however referral agencies were provided with the submittal documents for review. All referral comments received are enclosed with this Action Memorandum.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

Section 16-45 – PUD Planned Unit Development District

a) The Planned Unit Development (PUD) Provisions contained herein are intended to provide for the planning and development of substantial tracts of land, suitable in location and character for the uses proposed, as unified and integrated entities in accordance with detailed development plans.

   The proposed project is for a mixed-use subdivision which will include single family attached residential lots and a commercial lot. The composition of the subdivision is intended to create a cohesive feel between this property and the Lupton Village subdivision located east and across the rail road tracks. The PUD zoning allows for the commercial and residential to be planned together, and allows the developer to mimic the zoning parameters that are in place in the Lupton Village subdivision. Staff believes this plan meets the intent of Section 16-45(a).

b) Development within PUD Districts shall require specific approval of the Planning Commission and the City Council as amendments to the "Official Zoning Map" and approval of PUD plans which comply with the requirements and standards set forth in this Chapter and after the requirements of notice and hearing as set forth in this Chapter.

   A concurrent application for a change of zone has been submitted for Planning Commission and City Council approval. PUD plans have been submitted for review and approval.

c) PUD plan.

   (1) PUD permit requirements. All development within a PUD District must be in accordance with an approved PUD plan. No building or development permits shall be issued within a PUD District unless they are in conformance with an approved PUD plan for that District. Small wind energy systems are permitted uses in PUDs, provided that they meet the qualifications and criteria for a building permit set forth in Section 18-9 of this Code and are approved as part of the PUD approval process.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet.

(2) PUD plan format and content, general. In accordance with this Section, PUD plans shall contain unique district regulations that apply to specific parcels of land within a PUD District, including permitted and special uses, lot sizes, bulk, density, general layout, architectural guidelines and location of and standards for public facilities and amenities, and any design standards that vary from the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements. Unless specifically modified by a PUD plan, all provisions of the City's Code and adopted standards and specifications shall apply within PUD Districts. PUD plans shall be in the same general format as required for subdivision plats.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet. Unless specifically modified by the PUD plan, the subdivision will adhere to all provisions of the City Code.

(3) PUD plan process, general. All PUD plan applications shall be submitted and processed simultaneously with the subdivision applications for the property. PUD plan and subdivision applications may also be processed concurrently with the proposed amendment to the Official Zoning Map, creating a PUD District. Except as specifically provided in this Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major subdivisions, including all pre-application conferences, sketch PUD plan, preliminary PUD plan and final PUD plan applications, public hearings and recording with the County Clerk and Recorder.

These requirements have been met. The City has a general land use application, which includes the submittal for a PUD plan and subdivision application. The change of zone application was also submitted concurrently with the PUD plan and subdivision documents.

(4) Maintenance of private facilities. The owner shall establish an organization for the ownership and maintenance of any approved private streets and/or common open space areas unless other adequate arrangements for the ownership and maintenance thereof are provided in a manner acceptable to the City.

The applicant is working with the City to finalize the Subdivision Improvement Agreement. Private utilities will be maintained by a metro district.

(5) PUD size. Unless specifically waived by the City Council, the area included in a PUD plan must be at least ten (10) acres in size.

This development is 13.315 acres in size, more or less.

(6) Approval. Approval of a final PUD plan by the City Council shall be by ordinance.

This project will be presented before City Council for approval on June 20, 2022. The change of zone to the PUD Zone District will go separately before the City Council for approval by Ordinance.

d) Intent. PUD provisions are intended to further the following objectives:

(1) To permit and encourage innovative design and high quality, master-planned urban developments on large parcels of land.

(2) To permit greater flexibility in the application of zoning and development standards and greater freedom in providing a mix of land uses in the development of a balanced community.

(3) To preserve critical environmental resources, provide above-average open space and recreational amenities, include exceptional design and provide greater efficiency in the layout and provision of roads, utilities and other infrastructure.

(4) To provide flexibility in land planning and development, resulting in amenable relationships between buildings and ancillary uses, and permitting more intensive use of land where well-related open space and recreational facilities are integrated into overall design.

(5) To encourage unity and diversity in land development, resulting in convenient and harmonious groupings of uses, structures and common facilities, varied type design and layout of housing and other buildings and appropriate relationships of open spaces to intended uses and structures.

(6) To encourage unified and planned development of a site, with or without customary subdivision into single lots, and without specific application of the district regulations as provided for individual lots, subject to the regulations set forth herein.

(7) To provide for and encourage the preservation and enhancement of desirable natural landscape and other features unique to a development site.

(8) To provide reasonable standards and criteria by which the specific proposals for a PUD can be evaluated.

(9) To provide a procedure which can relate the design and layout of unified residential, commercial or industrial developments to the particular site and demand for such development in a manner consistent with the preservation of property values within established residential areas.

With respect to Section 16-45(d)(1)-(9) above, staff finds that the proposed PUD Plan and Preliminary and Final Plats substantively meet the intent of this subsection. The development of a mixed use subdivision under PUD zoning may provide more cohesion between the different land use types. The proposed PUD promotes unity and diversity in uses that would be otherwise difficult with straight zoning and provides greater cohesion between this development and the Lupton Village subdivision located to the east.

Deviations from the City Code are outlined on the PUD Plan.

e) General location and planning requirements.

(1) Relation to major transportation system. PUD districts shall be located with respect to major streets and highways or other transportation facilities to be directly accessible without creating traffic on minor streets in residential areas outside such district.

The subdivision will be accessed from South Denver Avenue. This subdivision will also include the addition of an internal road to access each of the residential lots and the commercial lot. City Council can choose to accept this internal road as public right-of-way.

(2) Relation to public utilities and community facilities. PUD districts shall be located in relation to public utilities and community facilities and services, either existing or to be available by the time development reaches the stage where they will be required, so that such facilities can be provided at reasonable cost and with reasonable efficiency.

Potable and non-potable water will be supplied by the City. Sanitary sewer will be supplied by the City. The developer is working with private utility providers for other utility requirements. Staff finds that the development meets this objective.

(3) Relation to general pattern of urban development. PUD districts shall be planned and located in general compliance with the Comprehensive Plan and shall relate to the major elements of the urban pattern, including housing, commercial facilities and principal places of employment, by physical proximity of major streets so as to provide for the convenience and amenity of residents of the community and to reduce general traffic congestion by a close relationship between origins and destinations.

The Future Land Use Map designates this parcel for Single-Family Detached Residential land uses, however the entire Lupton Village Area includes Single-Family Residential, Multi-Family, and General Commercial Land Uses. This application will contribute to the Lupton Village community as a whole, therefore it is staff's opinion that the proposal meets the intent of the Comprehensive Plan.

f) Physical character of the site. The site shall be suitable for the development proposed without hazards to structures, occupants or any property from probability of flooding on the site or on adjacent lands, from erosion or deposition of eroded material on adjacent lands, from subsidence of the soils or from other dangerous conditions. Soil, groundwater level, drainage and topography shall be appropriate to both the kind and pattern of use intended.

The project is not located within a floodplain. The Applicant accounted for drainage as shown on the plat. A soils report was submitted with the application materials and is available for review.

g) Site planning; external relationships.

(1) Vehicular access. Entrances and exits for vehicles shall be designed to encourage smooth traffic flow with minimum hazards to passing traffic or to traffic entering or leaving the development. Merging or turnout lanes may be required where anticipated traffic flows from or to the PUD indicate the need for such lanes. In no case shall streets within a PUD district

connect to streets outside the district in such a way as to encourage use of any minor streets for through traffic.

An interior road will be constructed to create access to each lot.

A traffic impact study was submitted with the application materials for review by the City Engineer, Fire District, and Planning staff. Staff finds that the layout proposed meets the intent of this subsection.

(2) Perimeter setback and screening. If topographical or other barriers do not provide adequate buffer between the PUD and adjacent uses, structures on the perimeter of the PUD shall be set back a distance equal to the minimum setback requirement of the adjoining district, or shall be permanently screened by fences, walls or plantings as required to sufficiently protect the privacy and amenity of adjacent uses, to protect the planned development from potentially adverse external influences such as a major street or highway and, as necessary, to make transition from adjoining district.

The applicant has submitted a landscape plan and worked with staff to ensure adequate landscaping particularly on South Denver Avenue and as a butter between the rail road tracks and the homes.

When the commercial lot is developed, a site plan application will be required, and onsite landscaping will be reviewed as part of that application.

h) Modifications of subdivision regulations.

(1) The improvements required under the subdivision regulations, including streets, storm drainage, sanitary sewerage and potable water systems, shall be provided in each PUD.

The Applicant is working with the City Engineer to finalize a subdivision improvements agreement prior to construction. This agreement will go before City Council for approval.

A final drainage report is provided in this packet.

(2) The requirements and standards for the construction of streets and utilities set forth in the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements shall be subject to modification where the plan and program for a PUD make adequate provision for vehicular and pedestrian access and circulation, recreation, utility and service needs of the tract when fully developed and occupied, and also provide such covenants, easements or other legal documents and provisions as will assure conformity to and successful implementation of the plan. Such modifications shall be contained within the PUD plan, subject to approval by the City Council.

The Applicant is working with the City Engineer to finalize these improvements prior to construction.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings/Grounds Manager	Building Inspector	City Attorney
Recreation Manager	GIS Specialist	Police Chief
Public Works Director	Golf Course Manager	Fort Lupton Fire Protection District
CDOT	United Power	Comcast
CenturyLink	Xcel Energy	Weld County GIS
Weld County School District RE-8	NCWCD	Fulton Ditch Company

STAFF RECOMMENDATION

Staff recommendation conditional approval of the Flats at Lupton Village PUD Final Plat. Conditions are listed under the proposed Resolution included with the packet.

For more information on this development, please refer to the application materials packet provided. Additional documents may be available for review at the Fort Lupton City Hall.

Form PLAN002

Clear Form

CITY OF Fort Lupton EST 1836

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: William J. Johanningmeier

Company: Fort Lupton Commercial General Partnership

Phone: 970-227-3393 Email: bj@cbanoco.com

Address: 1295 Main Street #5, Windsor CO 80550

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Mitchell Nelson

Company: Baessler Development Group

Phone: 970-373-8569 Email: mnelson@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

Preferred method of contact? Email: ☑ Phone: ☑ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Melissa Wheeler

Billing Company: Baessler Development Group

Phone: 970-412-2153 Email: mwheeler@baesslerhomes.com

Address: 3780 W 10th Street STE#200, Greeley CO 80634

B. SITE DESCRIPTION

Site Address: _____

Parcel Number: 147105300004

Existing Zone Classification: R-3 Proposed Zone Classification: PUD

Water Type: Municipal Name: Flats at Lupton Village

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☑ PUD Plan (Preliminary & Final)
☑ Preliminary Plat	☐ Special Use Permit	☐ Variance
☑ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☑ Change of Zone	☐ Other: _____
☐ Site Plan	☑ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Flats at Lupton Village

Please provide a short description of the proposed project in the space provided below:

Located northeast of the intersection of Kahil Street (CR12) and Denver Avenue, Lupton Flats is a proposed PUD incorporating 120 Single Family Attached units, a commercial pad, and open space. Total acreage for the site is 13.31 acres. The project will access off Denver Avenue and include a public road with alley access for residents to their garage entrances.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Mitchell Nelson Date: 2/22/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: William J. Johanningmeier Date: 2/22/22

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.

2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.

3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at https://www.co.weld.co.us/maps1/propertyportal/. Current zoning can be found at http://www.fortlupton.org/405/Zoning.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.
Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

VIA Print/Email

City of Fort Lupton

Attn: Todd Hodges

BAESSLER HOMES

February 22, 2022

RE: Overall Project Description

Dear City Staff,

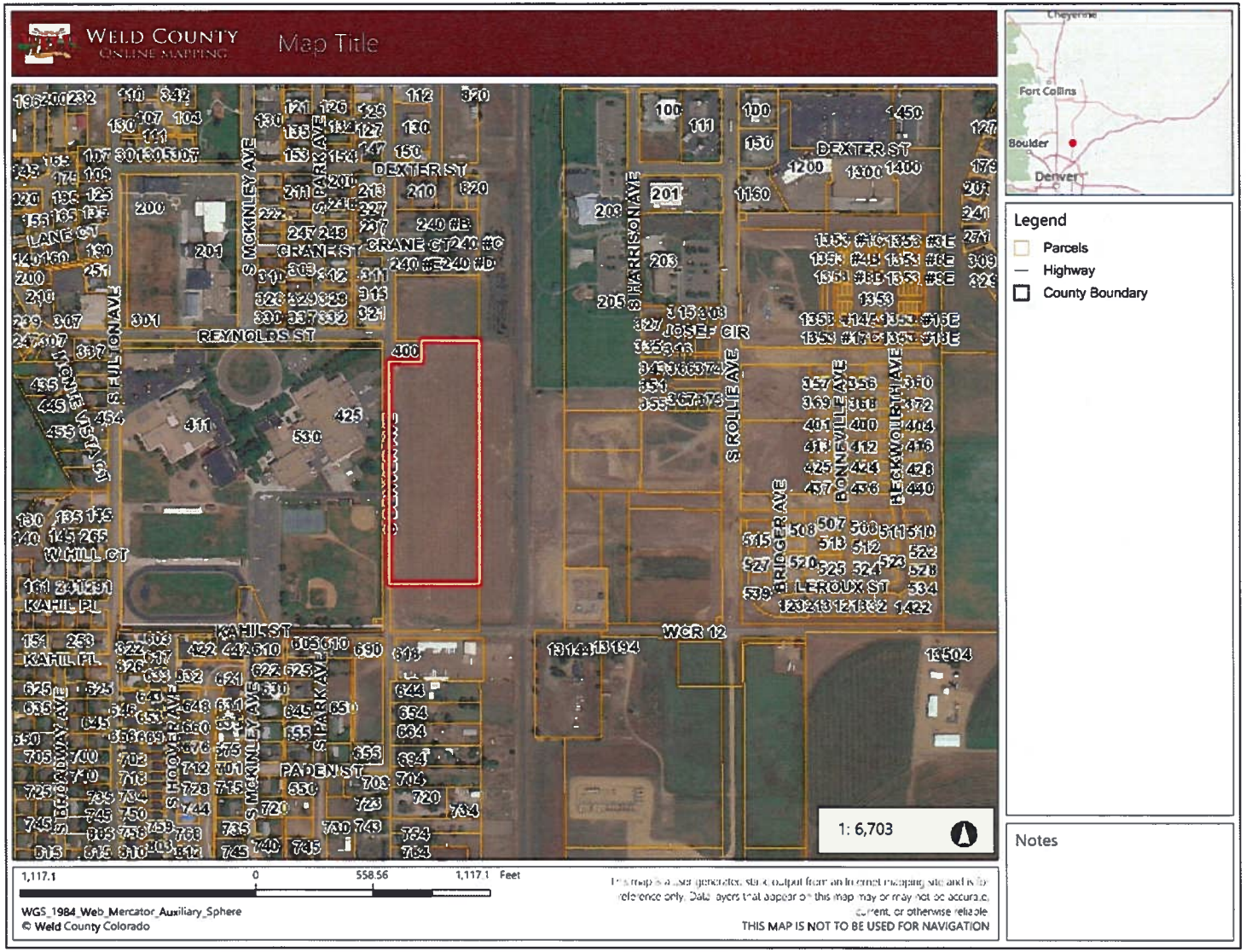
Lupton Flats (vicinity map sheet 2) is a PUD that proposes the construction of a single-family attached community consisting of approximately 120 units. The community will have two accesses off Denver Ave. There will be a primary public road moving north to south through the site. Alley access for the single family attached units will come laterally off the public right of way. It will include construction of sidewalk along both Denver Ave and County Road 12 within the project boundaries. There will be greenspace areas for residents of the community and a commercial lot will be preserved at the intersection of Denver Ave and County Road 12. The single family attached product will vary from 2 to 3-bedroom units and will be owned fee simple by buyers. Given the location of the project and proximity to both schools, City of Fort Lupton recreational facilities and trails, we believe that the proposed product type is appropriate and will be a valuable addition to the city.

Respectfully,

Andrew Gerk, Executive Vice President

Baessler Development LLC

3780 W 10TH ST. STE. 200, GREELEY, CO / 970-353-1492 / **BAESSLERHOMES.COM**


WELD COUNTY
ONLINE MAPPING
Map Title
DEXTER ST
REYNOLDS ST
CRANE ST
CRANE CT
JOSEF CIR
W HILL CT
KAHIL PL
KAHIL ST
PADEN ST
LEROUX ST
WCR 12
S MCKINLEY AVE
S PARK AVE
S HARRISON AVE
S ROLLIE AVE
BRIDGER AVE
BONNEVILLE AVE
BECKWOURTH AVE
S HOOVER AVE
S FULTON AVE
Cheyenne
Fort Collins
Boulder
Denver
Legend
Parcels
Highway
County Boundary
Notes
1: 6,703
1,117.1
0
558.56
1,117.1 Feet
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Weld County Colorado
THIS MAP IS NOT TO BE USED FOR NAVIGATION

PUD Land Use Standards

Setbacks	Proposed PUD	R-3 Zoning
Front	20'*	25'
Rear	15'*	20'
Side	Per City Code	5'
Corner	15'*	20'

Minimum Lot Area	Proposed PUD	R-3 Zoning
	1,000 SQ. FT.*	5,000 SQ. FT.

Minimum Lot Frontage	Proposed PUD	R-3 Zoning
	N/A	30'

* Denotes a variation of standards as compared with the R-3 Zoning District

Exterior wall materials	Proposed PUD	Residential Design Guidelines
Enhanced wall material	MIN. 25% Masonry Veneer/Stucco	MIN. 35% Brick/Stone
Remaining wall material	Siding	Stucco or Siding

- Future commercial area to abide by City of Fort Lupton C-1 standards.

Residential Design Guideline Variations

The Flats at Lupton Village PUD Requests a variance from the following residential design guidelines:

1. **Section IV.H.2.(a)(3):** Every building containing four (4) or more dwelling units shall have at least one (1) building entry or doorway facing any adjacent street that is not an arterial street or that has on-street parking.
2. **Section IV.H.3.(d)(1)**

PUD Land Use Standards - Residential

Zoning Standards

1. Permitted uses: Single-family attached uses shall be allowed in this PUD.
2. Maximum height: 35' (per City code)
3. Setbacks: Refer to "zoning code variation table". Every part of a required yard or setback shall be open and unobstructed, except from the ordinary projection of sills, cornices, ornamental features and eaves; provided, however, that none of the above projections shall project into a side yard more than twenty-four (24) inches.
4. Minimum lot area: Refer to "zoning code variation table".
5. Minimum floor area per dwelling unit: 750 sq. Ft. (per City code)
6. Minimum lot frontage: Refer to "zoning code variation table".
7. Fencing standards: Fences shall be constructed per the requirements of Chapter 16, Article V, of the Fort Lupton municipal code, except that chain link/woven wire fences are not an allowed material.
8. Utility maintenance statement: All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton public works department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.
9. Sight triangles: The construction of any fence and/or landscaping located at the intersection of public streets shall not obstruct motor vehicle operator views and shall comply with the requirements of Section 16-102 of the municipal code.

Design Guidelines

1. Building design repetition: identical building designs shall not be placed adjacent to each other. adjacent shall be defined as across streets, alleys, or sidewalks.
2. Exterior wall materials: refer to 'residential design guideline variations". wall materials shall be carried around all four building sides.
3. Roofing material: all sloped roof areas shall be clad with either high profile composition shingles such as slate, tile, or dimensional asphalt shingles, concrete or clay tiles, or seamed architectural metals.
4. Unique building characteristics: all buildings shall employ at least two (2) of the following design items applied consistently along each facade:
   a. Projections
   b. Recesses
   c. Shadow lines
   d. Window patterns
   e. Overhangs
   f. Reveals
   g. Changes in parapet height.
6. Building Enhancements: Each building shall contain at least six (6) of the following features:
   a. A minimum habitable floor area (excluding unfinished garage, attic, or unfinished basement space) of at least 1,000 square feet.
   b. A first floor front facade elevation that is 100% masonry.
   c. A primary roof slope of at least 6:12.
   d. A garage door with windows.
   e. Transom windows on at least one-quarter (1/4) of the windows facing public or private streets.
   f. At least one bay window.
   g. A front door containing two sidelights or one transom over the front door.
   h. An outdoor private enclosed area of at least one hundred (100) square feet.
   i. A covered front porch at least five (5) feet x eight (8) feet.
   j. A functional or simulated chimney appearing on an exterior wall, faced with masonry or stucco.
   k. At least one hundred (100) square feet of patterned paving materials used in driveways or walks open to public view.
   l. At least one roof dormer containing a window.
   m. A unit designed so that the unit's garage door or doors and its "front entry" appear on different sides of a building.
   n. A unit located in an attached town home row or attached cluster containing no more than three (3) units.
   o. A unit located in an attached townhouse row or attached cluster where no single elevation of the entire row or cluster contains more than four (4) garage doors (if garages are provided)
   p. The distance between residential structures is a minimum of 30 feet.
   q. Front elevation of the building contains at least three distinct roof breaks.
   r. Adjacent units in a building are different elevations.

PUD Zone District Standards - Commercial

1. Permitted Uses: General commercial uses shall be allowed in this PUD.

Utility Maintenance Statement

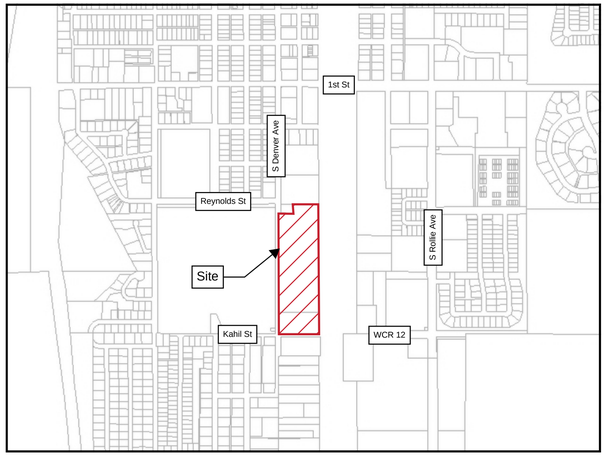
All streets as designated on page C13.2 - C13.4 of the approved construction plans and including Denver Avenue and CR12 are considered Public and will be maintained by the City.

City will be responsible for maintenance of all water, storm and sanitary sewer mains, submains and laterals up to the property line of each individual unit. Metro District is responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

All streetscaping will meet the requirements of the Fort Lupton Subdivision Regulations. Detention or Retention Pond improvements will be required at the time of construction on the site as determined by the Phase III Drainage Study submitted.

The Flats at Lupton Village Preliminary Plat/PUD

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.



Vicinity Map
Not to Scale

Sheet List Table			Revisions				
Page	Sheet Number	Sheet Title	A	B			
1	C1.0	Cover Sheet	✓	✓			
2	C1.1	Preliminary Plat	✓	✓			
3	C6.0	Grading Plan	✓	✓			
4	C8.0	Utility Plan	✓	✓			
5	C8.1	Utility Plan	✓	✓			
6	E1.0	Representative Elevations	✓	✓			
7	E1.1	Representative Elevations	✓	✓			
8	L1.0	Landscape Plans	✓	✓			
9	L2.0	Landscape Plans	✓	✓			
10	L3.0	Landscape Plans	✓	✓			
11	L4.0	Landscape Plans	✓	✓			
12	L5.0	Landscape Notes & Details	✓	✓			
13	LT1.0	Lighting Plans	✓	✓			

Land Use Summary Table								
Land Use	Area (ac)	No. of Units	Density	Garage Parking Provided	Off-Street Parking Provided	Required Parking	Open Space	Landscape Surface Ratio
Single-Family Attached	10.34	120	11.61 units/acre	240	72	240 (2 per unit)	4.62 acres	45%
Commercial	1.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A

- Future design to account for Land Use of commercial area.

Legal Description

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado.

Project Contacts

Owner/Applicant
Baessler Development LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634
(970) 702-2051

Surveyor
Lat40, Inc.
6250 West 10th Street #2
Greeley, CO 80634
(970) 515-5294

Civil Engineer
LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634
(970) 632-2311

Landscape Architect
Ripley Design, Inc.
419 Canyon Avenue, Suite 200
Fort Collins, CO 80521
(970) 224-5828

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/20/2022

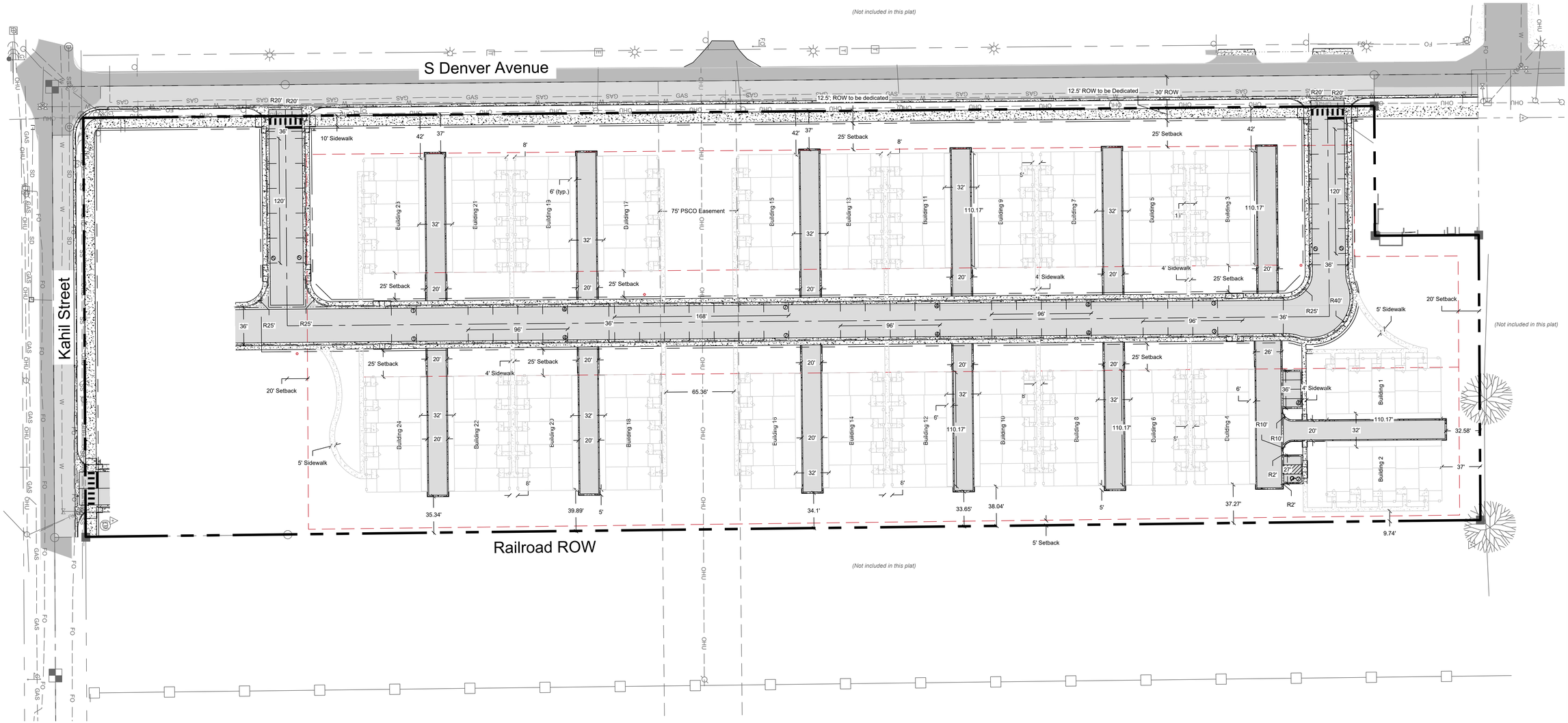
LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

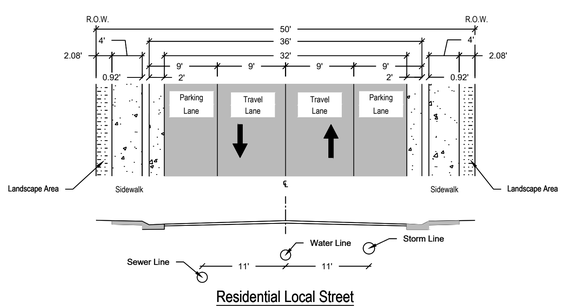
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	02/22/2022	1st Submittal to City
B	04/22/2022	2nd Submittal to City

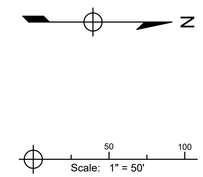
The Flats at Lupton Village — Cover Sheet — Fort Lupton, CO

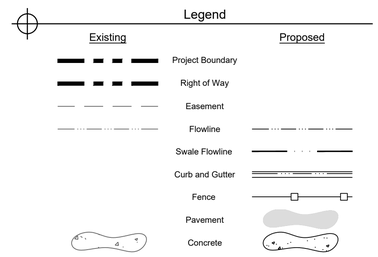
Sheet C1.0





Residential Local Street





LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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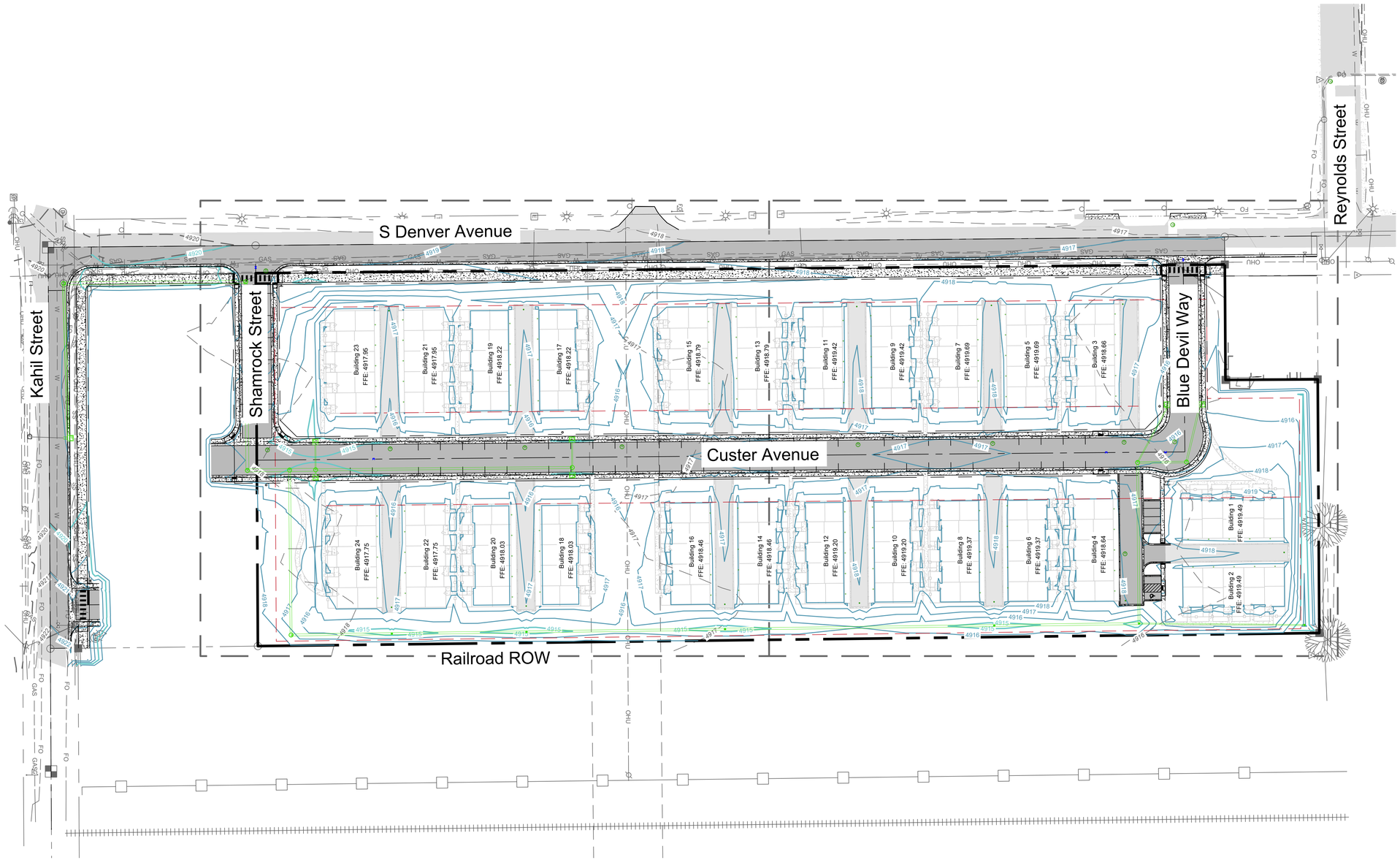
The Flats at Lupton Village

Preliminary Plat

Fort Lupton, CO

Sheet C1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\PUD Preliminary Plat 21-031.dwg, 4/12/2022 12:19:36 PM, Sam Boyd, LandOne Engineering



Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
4800 Major Contour	4800
4801 Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Grading Plan Notes

1. FFEs are provided as reference only of possible future design, as well as to convey a design intent. Grading of townhomes, individual sidewalks, and driveways will be completed at time of plot plan.

LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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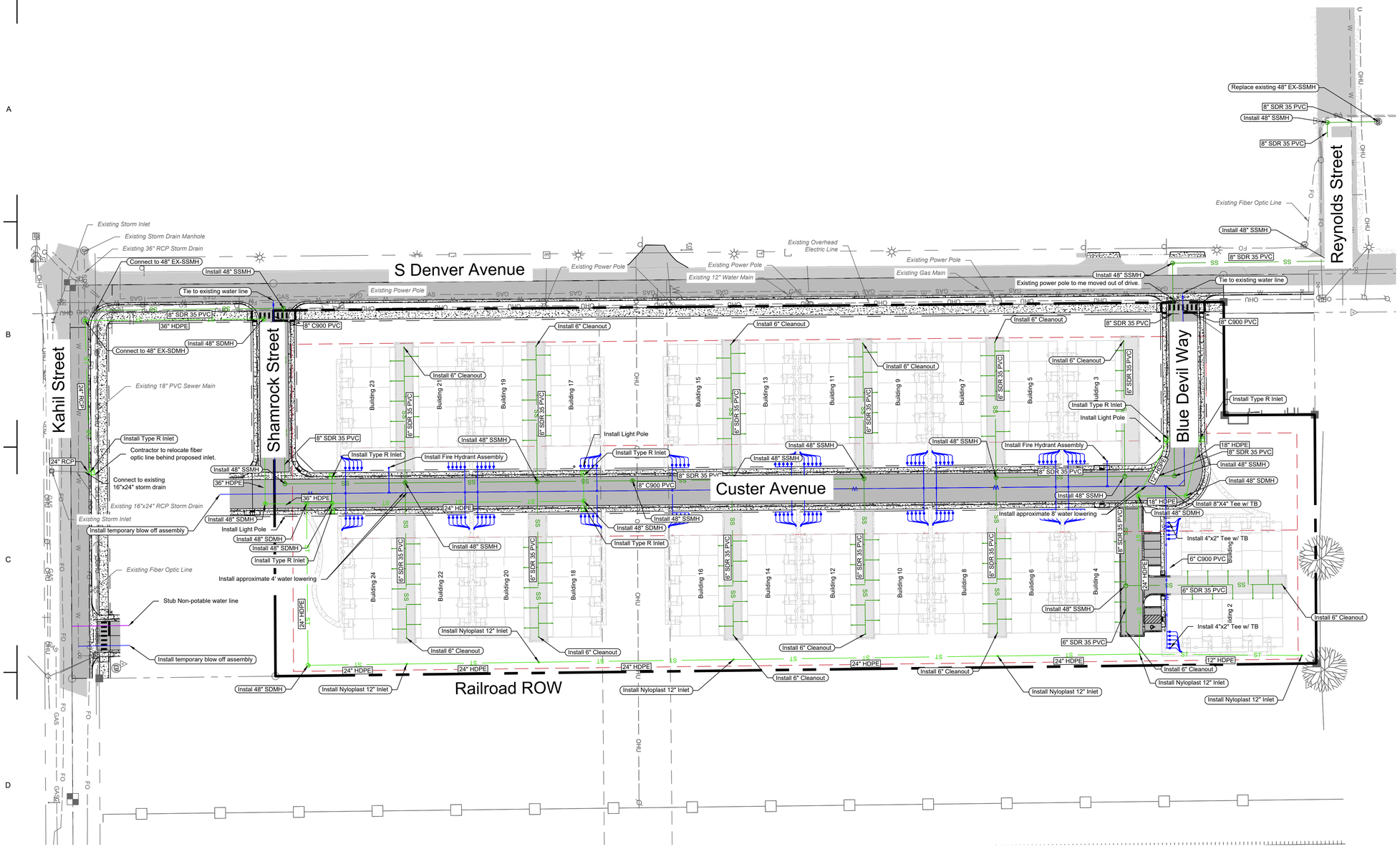
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

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A	02/22/2022	1st Submittal to City
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The Flats at Lupton Village
Construction Documents
Overall Grading Plan
Fort Lupton, CO

Sheet C6.0

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N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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Job Number	21-031
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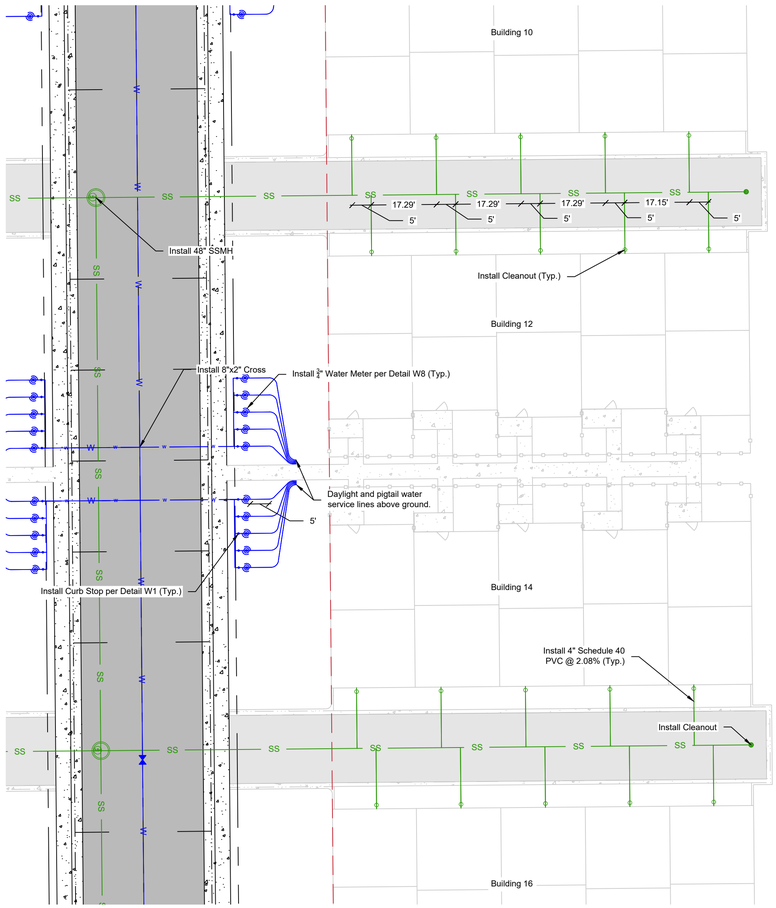
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The Flats at Lupton Village
Construction Documents

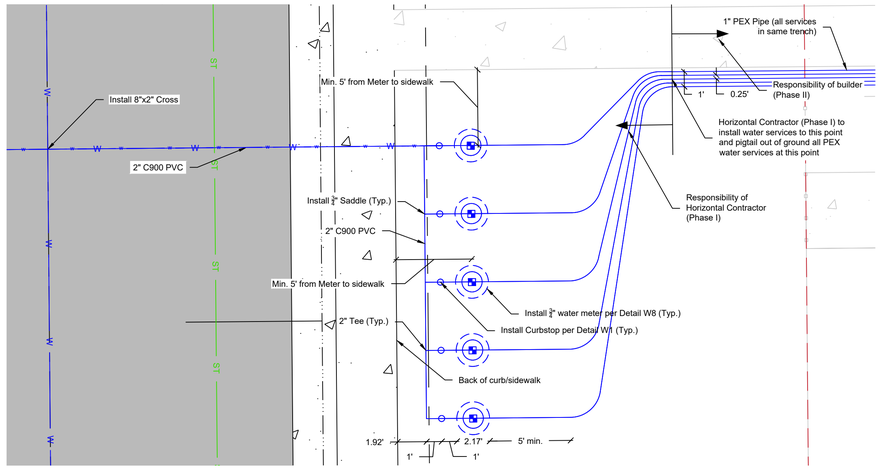
Overall Utility Plan

Fort Lupton, CO

Sheet
C8.0



Phase I (Horizontal) Typical 5-Plex Utility Layout
Scale: 1" = 20'



Typical Water Service Meter/Curbstop Layout
Scale: 1" = 5'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
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The Flats at Lupton Village
Construction Documents

Typical Utility Services

Fort Lupton, CO

Sheet C8.1





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Greeley, CO 80634

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The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.0







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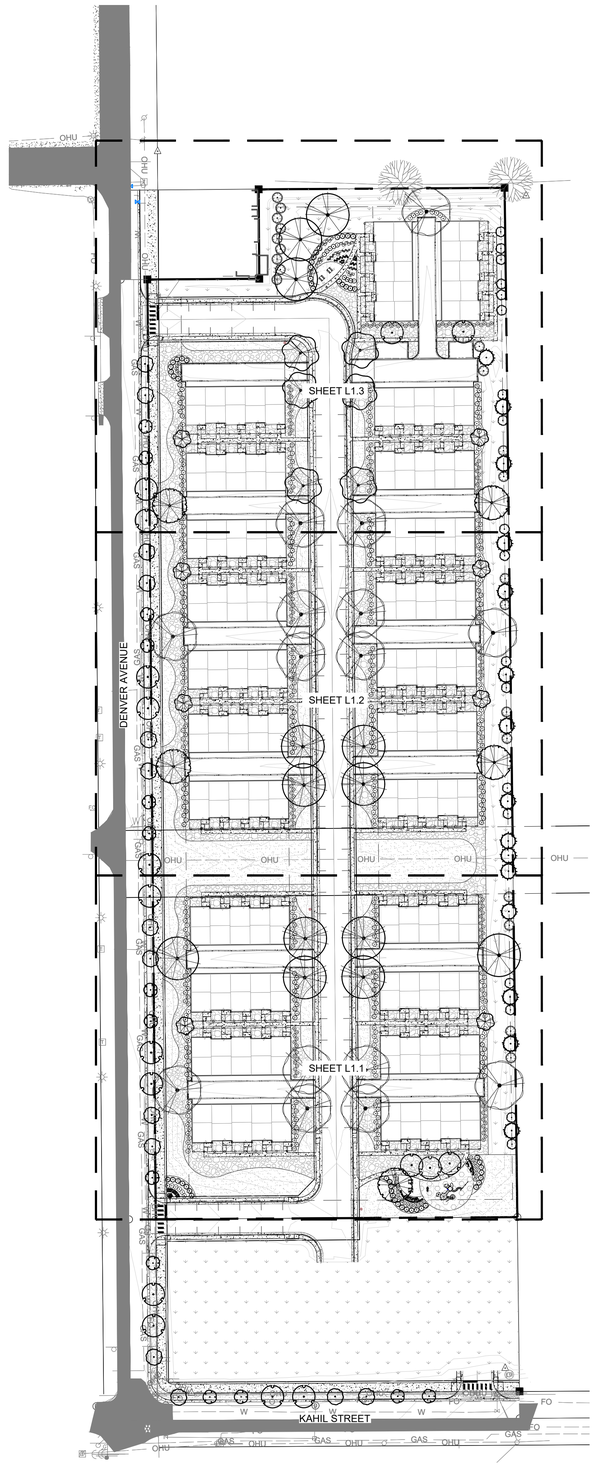
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The Flats at Lupton Village

Representative Elevations

Fort Lupton, CO

Sheet E1.1



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
	5	AESCULUS GLABRA OHIO BUCKEYE
	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
	15	QUERCUS ROBUR ENGLISH OAK
	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
	14	ACER GINNALA AMUR MAPLE
	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	CONCRETE

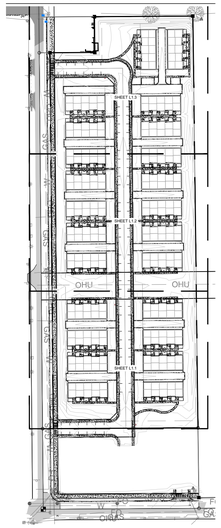
02 LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

KEY MAP



THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
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CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH
SCALE: 1"=80'-0"
0 40 80 160

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

OVERALL LANDSCAPE PLAN

SEAL:

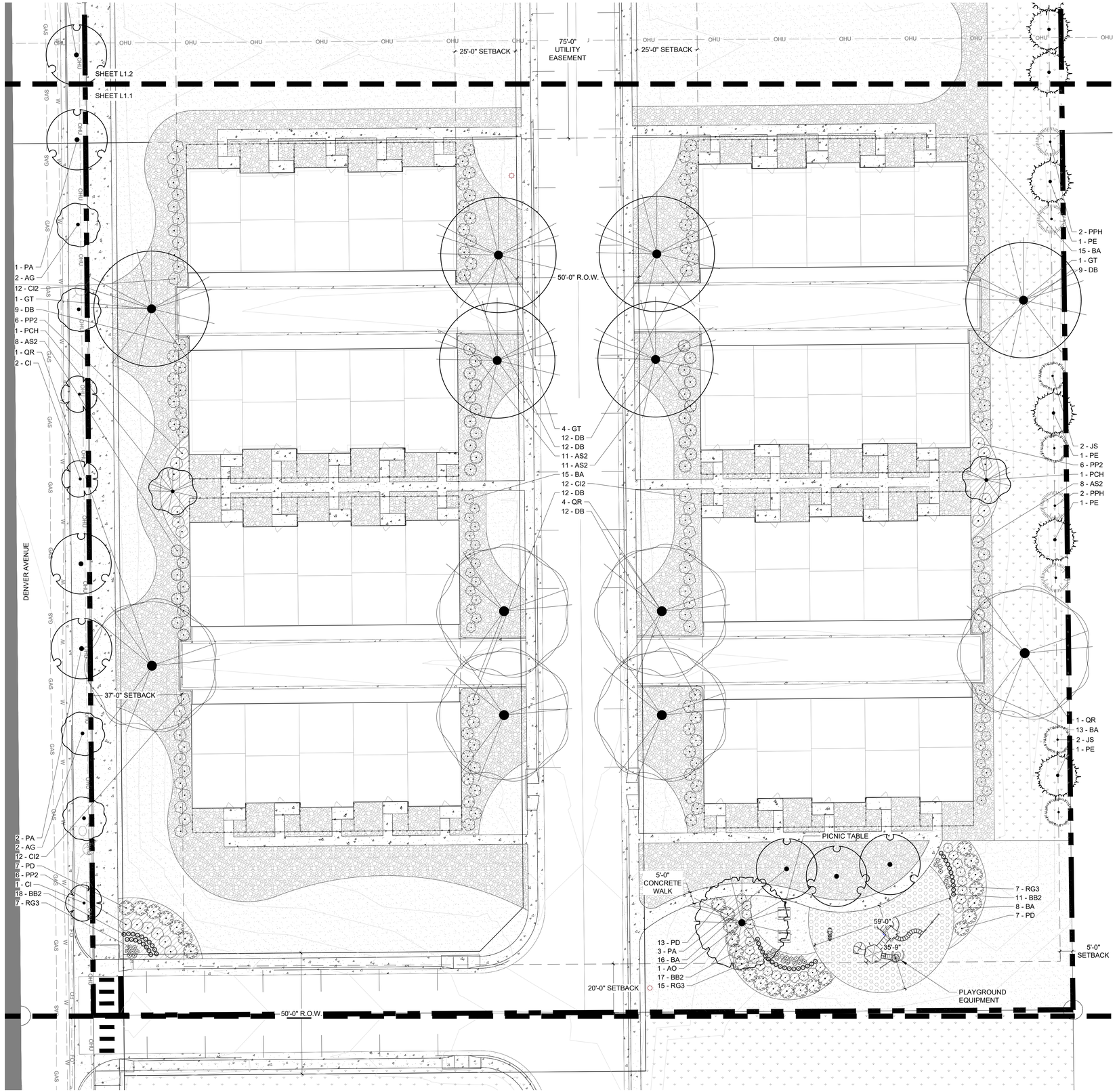
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

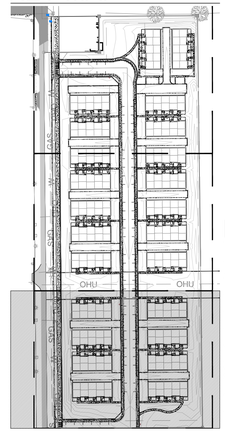
DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
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	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

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LEGEND

= PROPERTY BOUNDARY
= STORM DRAIN
= EXISTING SANITARY SEWER
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= EXISTING GAS
= EXISTING FIBER OPTIC
= EXISTING ELECTRIC
= OVERHEAD ELECTRIC
= EXISTING FENCE
= EXISTING TREE
= EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

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p. 970.443.9547

NORTH SCALE: 1"=20'-0"
0 10 20 40

ORIGINAL SIZE 24X36

ISSUED

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02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

SEAL:

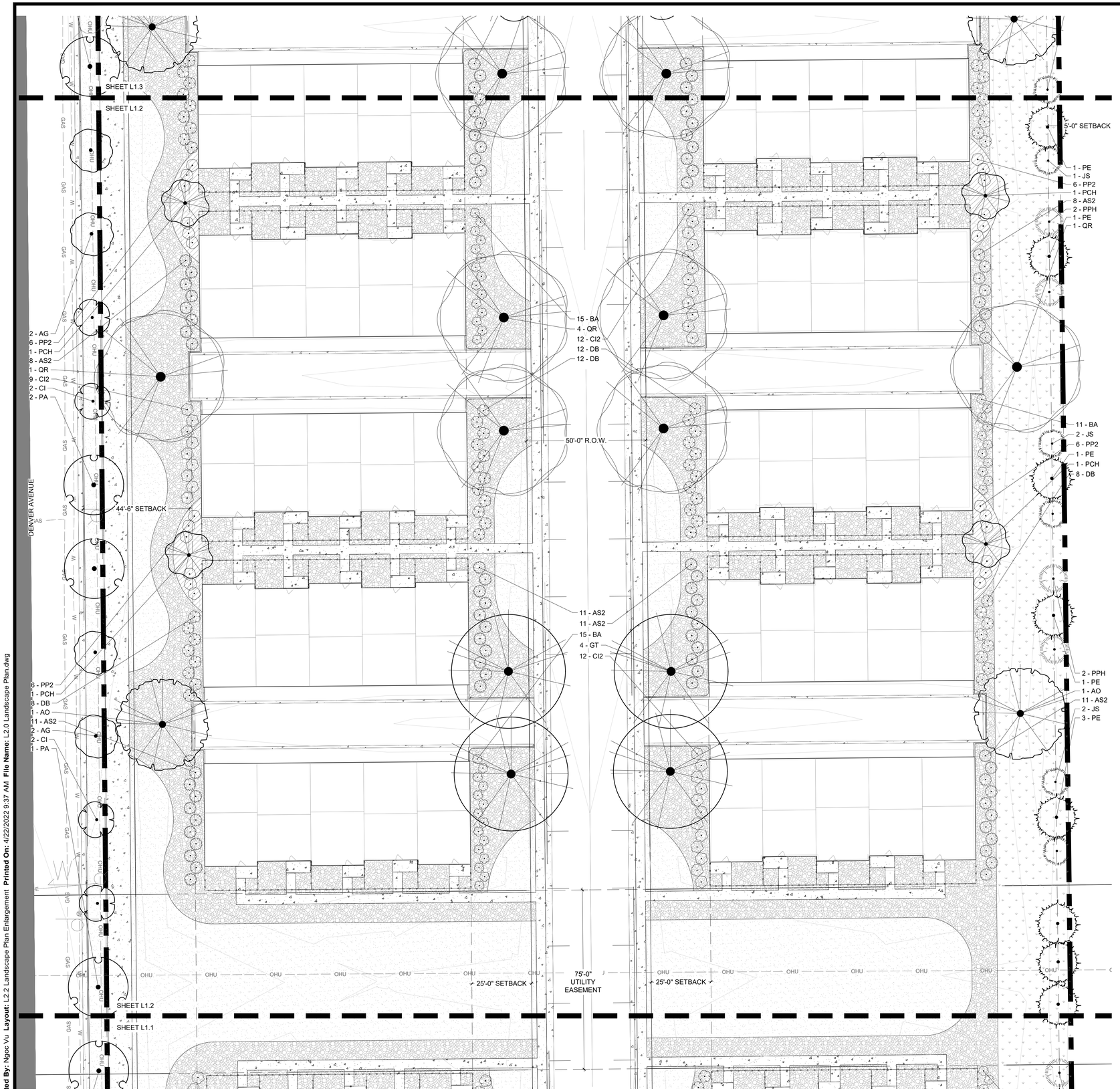
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PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

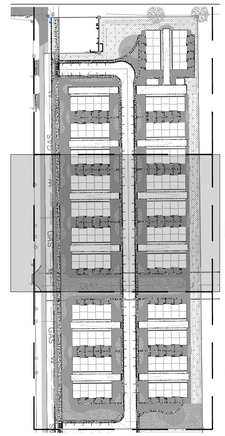
DRAWING NUMBER:

L1.1 OF 5

Plotted By: Ngoc Vu **Layout:** Landscape Plan Enlargement **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
PE	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
AG	14	ACER GINNALA AMUR MAPLE
CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
PA	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
DB	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
PD	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
PP2	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
RG3	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

= PROPERTY BOUNDARY
= STORM DRAIN
= EXISTING SANITARY SEWER
= EXISTING STORM DRAIN
= EXISTING WATER LINE
= EXISTING GAS
= EXISTING FIBER OPTIC
= EXISTING ELECTRIC
= OVERHEAD ELECTRIC
= EXISTING FENCE
= EXISTING TREE
= EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
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f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH SCALE: 1"=20'-0"
0 10 20 40

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

SEAL:

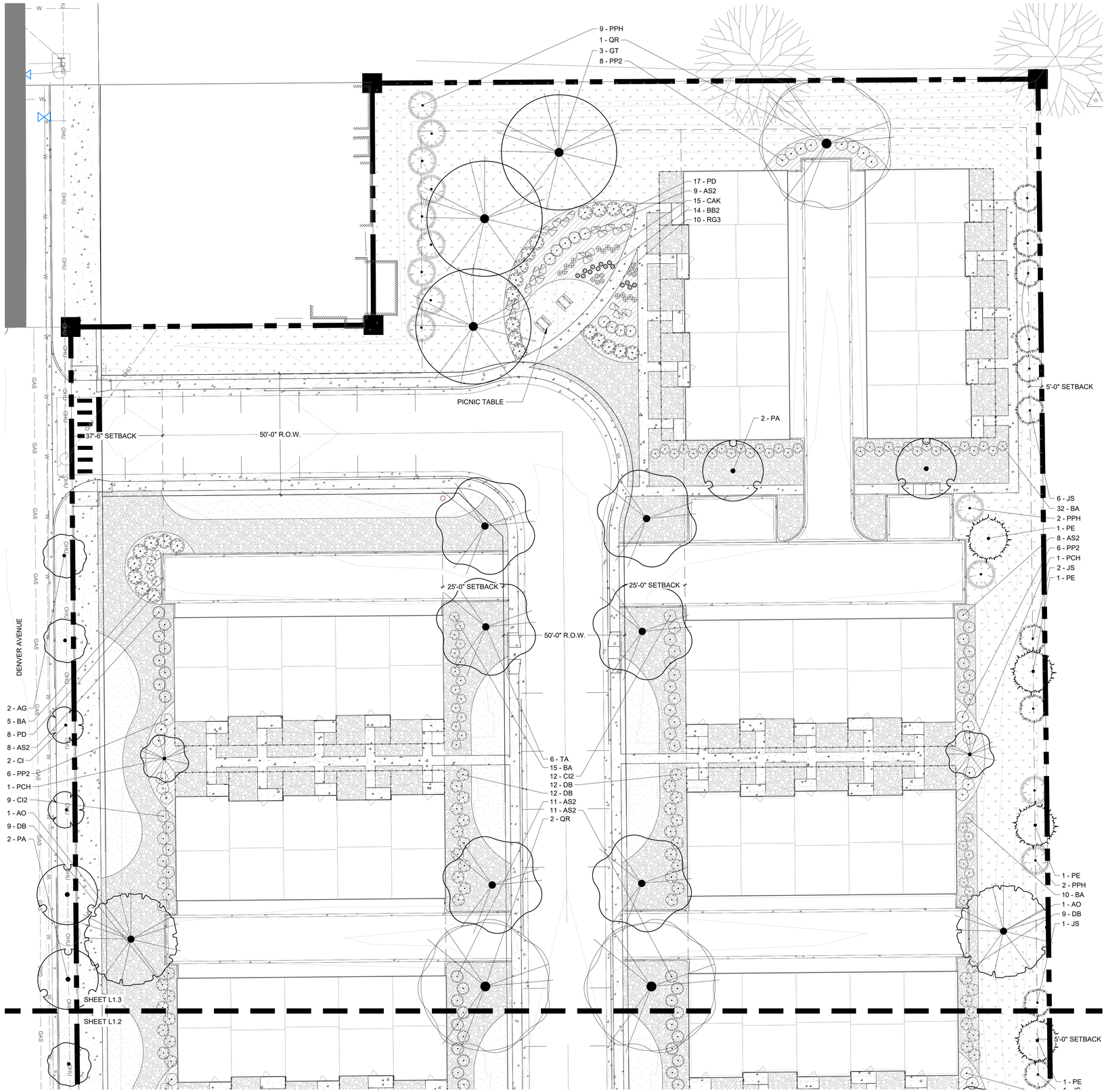
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

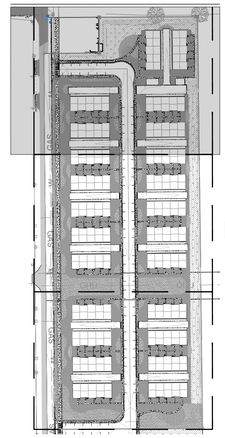
DRAWING NUMBER:

L1.2 OF 5

Plotted By: Ngoc Vu **Layout:** L2.2 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
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LEGEND

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- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

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REVISIONS

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LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

DRAWING NUMBER:

L1.3 OF 5

Plotted By: Ngoc Vu **Layout:** L2.3 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg

GENERAL LANDSCAPE NOTES

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE - FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT.

2. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE CITY WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.

3. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

4. SOIL AMENDMENTS: SOIL AMENDMENTS SHALL BE PROVIDED AND DOCUMENTED IN ACCORDANCE WITH CITY CODE SECTION 12-132, THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, A WRITTEN CERTIFICATION MUST BE SUBMITTED TO THE CITY THAT ALL PLANTED AREAS, OR AREAS TO BE PLANTED, HAVE BEEN THOROUGHLY LOOSENED AND THE SOIL AMENDED, CONSISTENT WITH THE REQUIREMENTS SET FORTH IN SECTION 12-132.

5. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.

6. MAINTENANCE: TREES AND VEGETATION, IRRIGATION SYSTEMS, FENCES, WALLS AND OTHER LANDSCAPE ELEMENTS WITH THESE FINAL PLANS SHALL BE CONSIDERED AS ELEMENTS OF THE PROJECT IN THE SAME MANNER AS PARKING, BUILDING MATERIALS AND OTHER SITE DETAILS. THE APPLICANT, LANDLORD OR SUCCESSORS IN INTEREST SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL LANDSCAPING ELEMENTS IN GOOD CONDITION. ALL LANDSCAPING SHALL BE MAINTAINED FREE FROM DISEASE, PESTS, WEEDS AND LITTER, AND ALL LANDSCAPE STRUCTURES SUCH AS FENCES AND WALLS SHALL BE REPAIRED AND REPLACED PERIODICALLY TO MAINTAIN A STRUCTURALLY SOUND CONDITION.

7. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.

8. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:
   - 10 FEET BETWEEN TREES AND FIRE HYDRANTS AND OVERHEAD UTILITY POLES.
   - 10 FEET BETWEEN TREES AND ANY UNDERGROUND UTILITIES.
   - 30 FEET BETWEEN TREES AND STREET INTERSECTIONS

9. ALL STREET TREES SHALL BE PLACED A MINIMUM EIGHT (8) FEET AWAY FROM THE EDGES OF DRIVEWAYS AND ALLEYS.

10. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT LUPTON.

11. THE FINAL LANDSCAPE PLAN SHALL BE COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE

12. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION – AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED.

13. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES.

14. IRRIGATED TURF SHALL BE TEXAS BLUEGRASS/KENTUCKY BLUEGRASS HYBRID REVEILLE OR APPROVED EQUAL.

15. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL BE 18" X 4" ROLLED TOP STEEL SET LEVEL WITH TOP OF SOD OR APPROVED EQUAL.

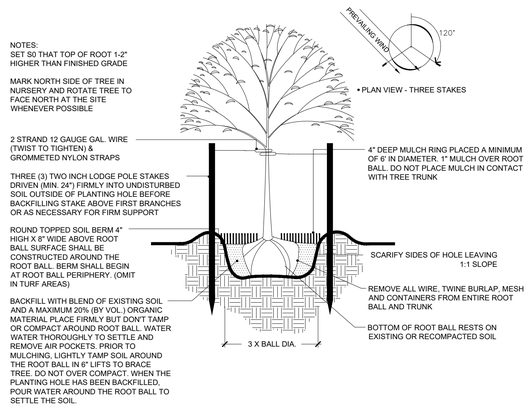
16. STRAW / COCONUT SOIL RETENTION BLANKET SHALL BE APPLIED TO ALL SEEDED AREAS ON SLOPES GREATER THAN 3:1.

17. ONLY SMALL TREES SHALL BE USED WHEN PLANTING UNDER OR WITHIN 10 LATERAL FEET OF OVERHEAD UTILITY WIRES.

18. ONLY SMALL TREES SHALL BE PLANTED OVER OR WITHIN 10 10 LATERAL FEET FROM ANY UNDERGROUND UTILITIES.

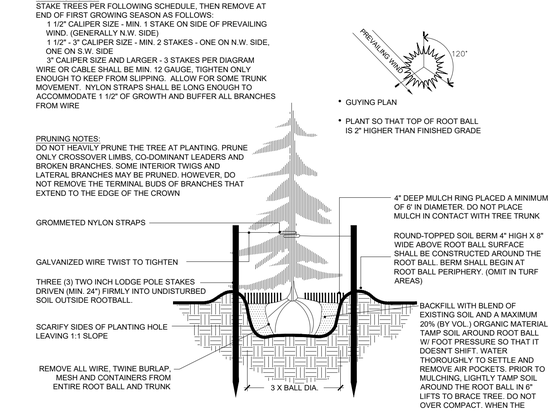
WATER USE TABLE

HYDROZONE	AREA (SF)	WATER NEEDED (GALLONS/SF)	ANNUAL WATER USE (GALLONS)
MODERATE	28022	10	280,220.00
LOW	82495	3	247485.00
VERY LOW	169064	0	0.00
TOTAL	279,581	1.8875	527,705
ANNUAL WATER USE NOT TO EXCEED 15 GAL./SF. AVERAGE OVER THE SITE			



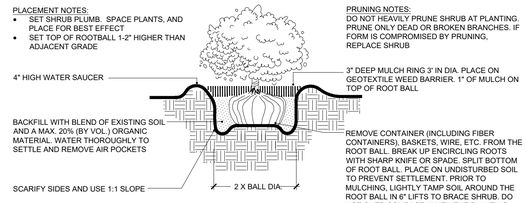
1 TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-02



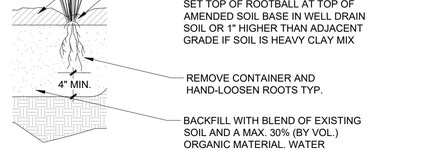
2 CONIFER TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-16



3 SHRUB PLANTING DETAIL

SCALE: NTS L-PL2-PLA-14



4 ORNAMENTAL GRASS DETAIL

NO SCALE L-PL2-PLA-19

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

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ORIGINAL SIZE 24X36

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NOTES & DETAILS

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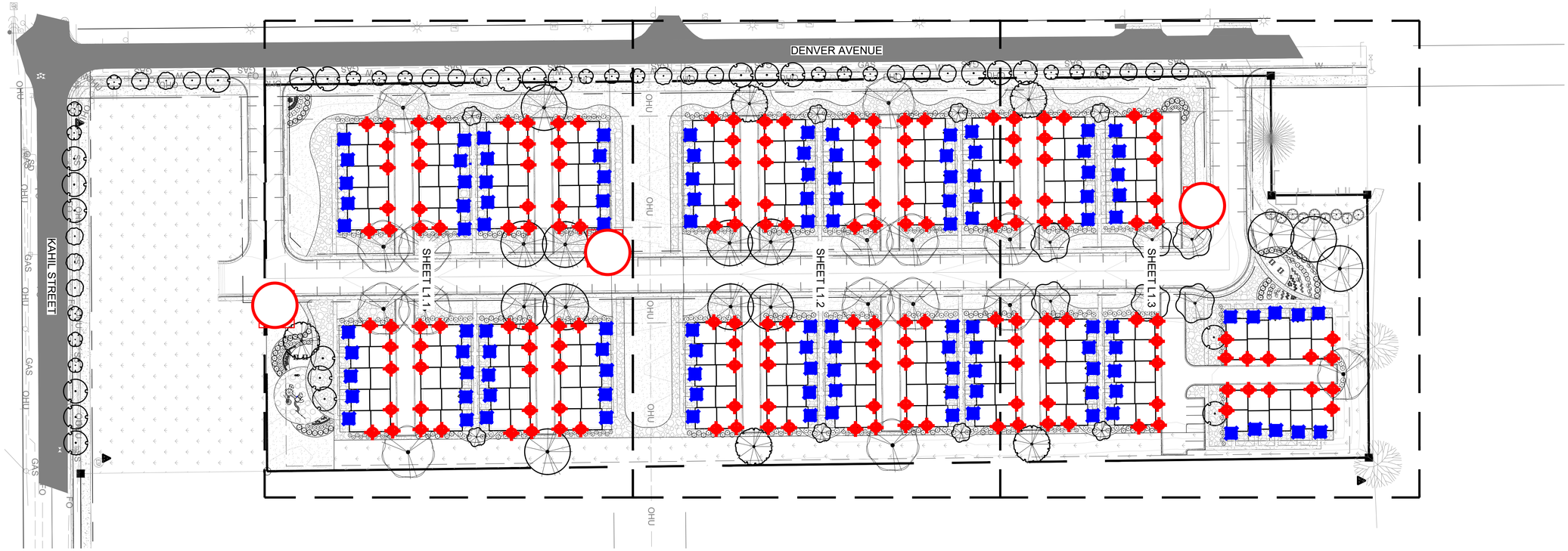
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

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REVIEWED BY:	KT

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L2.0 OF 5

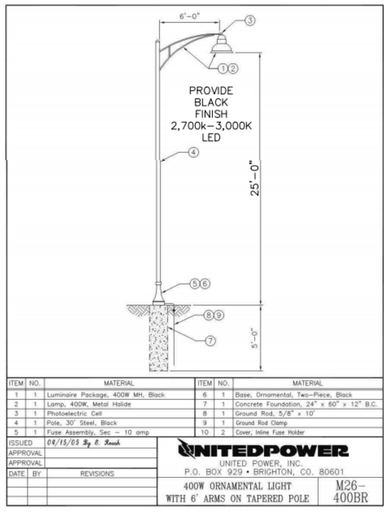
Plotted By: Ngoc Vu **Layout:** Notes & Details **Printed On:** 4/22/2022 9:37 AM **File Name:** L3.0 Notes & Details.dwg



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec - 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: R. Kanuk
APPROVAL	
APPROVAL	

DATE	BY	REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26-400BR

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

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SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



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LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2021-0029 & PLAN No. SPL2021-0001

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

DEDICATION

Know all men by these presents, that we, Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of the land described herein, have caused said land to be laid out and platted under the name of Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION and do hereby dedicate to the City of Fort Lupton and it's licensees for public use forever all streets, alleys and utility easements as indicated hereon, in compliance with the City of Fort Lupton Subdivision Regulations and by contractual agreement, the landowners shall bear all expenses involved in improvements.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through William J. Johanningmeier, on behalf of
JMeier, Inc. Managing Member

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through William J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Baessler Development LLC
By: Andrew J. Gerk As: Exectutive Vice President

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as Exectutive Vice President

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

OWNER'S APPROVAL

Know All Men By These Presents, that Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of

the land described herein, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through William J. Johanningmeier, on behalf of
JMeier, Inc. Managing Member

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through William J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

ary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____
Owner: Baessler Development LLC
By: Andrew J. Gerk As: Exectutive Vice President

STATE OF _____)
)ss
COUNTY OF _____)

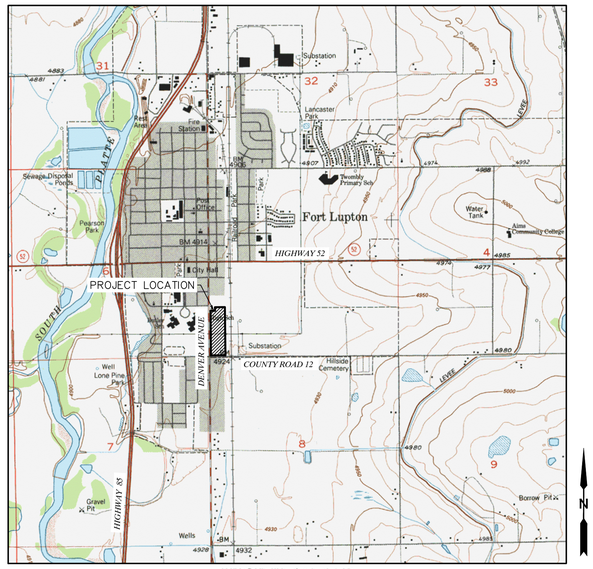
The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as Exectutive Vice President

Witness my hand and official seal.

My commission expires _____

_____
Notary Public



VICINITY MAP
SCALE – 1"=2000'

MAYOR'S CERTIFICATE

This is to certify that a plat of the above-described property was approved by Resolution No. 2022_____ of the City of Fort Lupton passed and adopted on the ____ day of _____ 20____ and that the Mayor of the City of Fort Lupton, as authorized by said resolution on behalf of the City of Fort Lupton, hereby acknowledges and adopts the said plat upon which this certificate is endorsed for all purposes indicated thereon.

_____
Mayor

Attest:

_____
City Clerk
(Seal)

CITY ADMINISTRATOR'S APPROVAL

Approved this _____day of _____, 20 _____.

_____
City Administrator

CITY WATER AND SEWER DEPARTMENT APPROVAL

Approved this _____day of _____, 20 _____.

_____
Director of Public Works

CITY ENGINEER'S APPROVAL

Approved this _____day of _____, 20 _____.

Accepted by: _____
City Engineer

DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1376.07 feet to the South line of the SW1/4 of said Section 5;
THENCE South 89°40'24" West along said South line a distance of 434.91 feet to the Southwest corner of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

SURVEYOR'S CERTIFICATE

I, Jason S. Allee, a duly registered land surveyor in the State of Colorado, do hereby certify that this Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION was performed by me or under my direct supervision, and that this Plat has been prepared in compliance with all applicable laws of the State of Colorado at the time of this survey and within my control, and is accurate to the best of my knowledge, information and belief.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S IMPROVEMENT CERTIFICATE

I hereby certify that, on the date shown, a field survey was conducted under my supervision of the above-described property, and that all building improvements, easements and rights-of-way in evidence or known to me are correctly shown on the above plat. I further certify that there are no encroachments by and/or on this property, unless otherwise noted.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

1. Total Surveyed Area: 12.15 Acres (±529,309 sq.ft.).

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Entire property is in Flood Zone X, areas of minimal flood hazard per FEMA Flood Map Number 08123C210E, effective on 01/20/2016. The referenced Federal Insurance Rate Map was not available for viewing. The FIRMette states the map is "Not Printed".

4. Current zoning is C-1 (General Commercial), per the City of Fort Lupton Interactive Zoning Map.

5. The 75' PSCO right-of-way easement is shown in the title commitment as being granted by an instrument recorded December 5, 1947 under Reception No. 1019613. the reception no. could not be found within the records of the Weld County Clerk and Recorder via the ICRIS self service document research system.

6. NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PROJECT CONTACTS:

DEVELOPER:
Lupton Village Land Developers, LLC
3780 W. 10th Street, Suite 200
Greeley, CO 80634
Ph: (970)702-2009
Andrew J. Gerk

ENGINEER:
LandOne Engineering LLC
361 71st Avenue
Greeley, CO 80634
Ph: (970)443-2311
Jeremy Goetsch, PE

SURVEYOR:
Lat40°, Inc.
6250 W. 10th Street, Unit 2
Greeley, CO 80634
Ph: (970)515-5294
Jason Allee, PLS

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

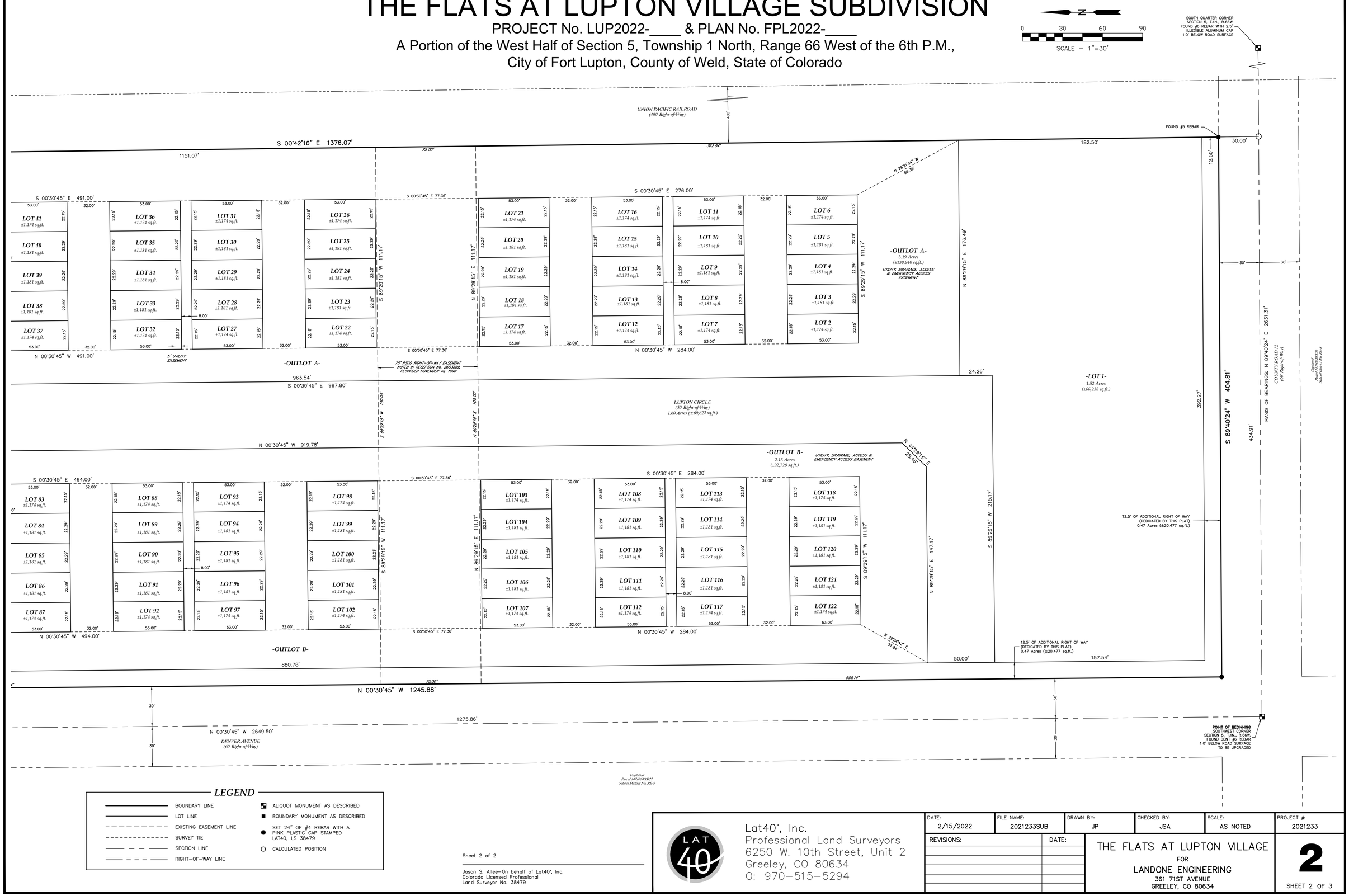
1
SHEET 1 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

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THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

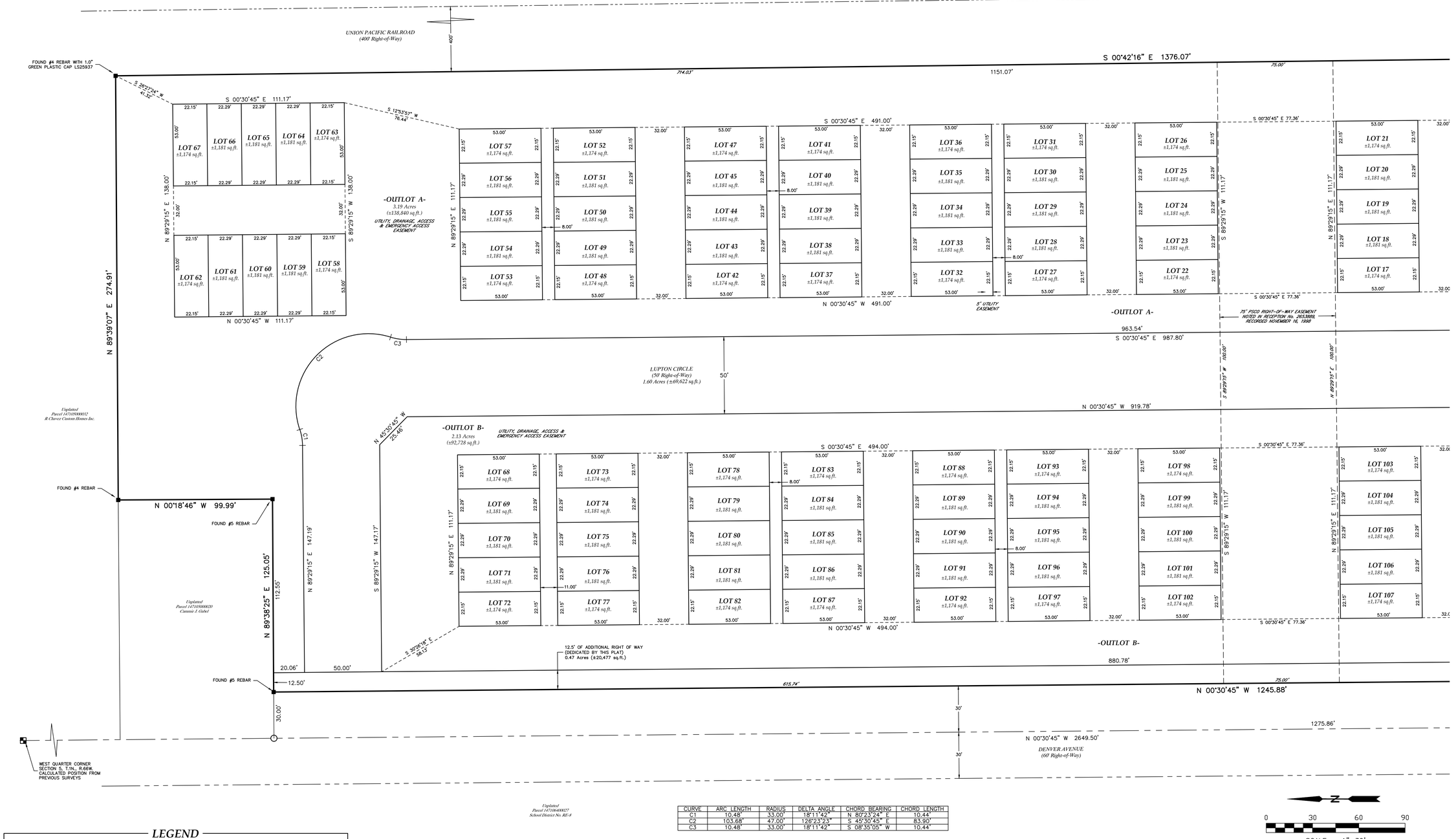
2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



Lot	Area
LOT 57	±1,174 sq.ft.
LOT 56	±1,181 sq.ft.
LOT 55	±1,181 sq.ft.
LOT 54	±1,181 sq.ft.
LOT 53	±1,174 sq.ft.
LOT 52	±1,174 sq.ft.
LOT 51	±1,181 sq.ft.
LOT 50	±1,181 sq.ft.
LOT 49	±1,181 sq.ft.
LOT 48	±1,174 sq.ft.
LOT 47	±1,174 sq.ft.
LOT 45	±1,181 sq.ft.
LOT 44	±1,181 sq.ft.
LOT 43	±1,181 sq.ft.
LOT 42	±1,174 sq.ft.
LOT 41	±1,174 sq.ft.
LOT 40	±1,181 sq.ft.
LOT 39	±1,181 sq.ft.
LOT 38	±1,181 sq.ft.
LOT 37	±1,174 sq.ft.
LOT 36	±1,174 sq.ft.
LOT 35	±1,181 sq.ft.
LOT 34	±1,181 sq.ft.
LOT 33	±1,181 sq.ft.
LOT 32	±1,174 sq.ft.
LOT 31	±1,174 sq.ft.
LOT 30	±1,181 sq.ft.
LOT 29	±1,181 sq.ft.
LOT 28	±1,181 sq.ft.
LOT 27	±1,174 sq.ft.
LOT 26	±1,174 sq.ft.
LOT 25	±1,181 sq.ft.
LOT 24	±1,181 sq.ft.
LOT 23	±1,181 sq.ft.
LOT 22	±1,174 sq.ft.
LOT 21	±1,174 sq.ft.
LOT 20	±1,181 sq.ft.
LOT 19	±1,181 sq.ft.
LOT 18	±1,181 sq.ft.
LOT 17	±1,174 sq.ft.
LOT 68	±1,174 sq.ft.
LOT 69	±1,181 sq.ft.
LOT 70	±1,181 sq.ft.
LOT 71	±1,181 sq.ft.
LOT 72	±1,174 sq.ft.
LOT 73	±1,174 sq.ft.
LOT 74	±1,181 sq.ft.
LOT 75	±1,181 sq.ft.
LOT 76	±1,181 sq.ft.
LOT 77	±1,174 sq.ft.
LOT 78	±1,174 sq.ft.
LOT 79	±1,181 sq.ft.
LOT 80	±1,181 sq.ft.
LOT 81	±1,181 sq.ft.
LOT 82	±1,174 sq.ft.
LOT 83	±1,174 sq.ft.
LOT 84	±1,181 sq.ft.
LOT 85	±1,181 sq.ft.
LOT 86	±1,181 sq.ft.
LOT 87	±1,174 sq.ft.
LOT 88	±1,174 sq.ft.
LOT 89	±1,181 sq.ft.
LOT 90	±1,181 sq.ft.
LOT 91	±1,181 sq.ft.
LOT 92	±1,174 sq.ft.
LOT 93	±1,174 sq.ft.
LOT 94	±1,181 sq.ft.
LOT 95	±1,181 sq.ft.
LOT 96	±1,181 sq.ft.
LOT 97	±1,174 sq.ft.
LOT 98	±1,174 sq.ft.
LOT 99	±1,181 sq.ft.
LOT 100	±1,181 sq.ft.
LOT 101	±1,181 sq.ft.
LOT 102	±1,174 sq.ft.
LOT 103	±1,174 sq.ft.
LOT 104	±1,181 sq.ft.
LOT 105	±1,181 sq.ft.
LOT 106	±1,181 sq.ft.
LOT 107	±1,174 sq.ft.

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'23"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

0 30 60 90

SCALE – 1"=30'

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3
SHEET 3 OF 3

The Flats at Lupton Village
Construction Documents

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North,
Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado



Vicinity Map
Not to Scale

Project Contacts

Owner/Applicant
Baessler Development, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634
(970) 702-2051

Surveyor
Lat40, Inc.
6250 West 10th Street #2
Greeley, CO 80634
(970) 515-5294

Civil Engineer
LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634
(970) 632-2311

Landscape Architect
Ripley Design, Inc.
419 Canyon Avenue, Suite 200
Fort Collins, CO 80521
(970) 224-5828

Agency Contacts

Planning
Maria Lancto
Planner I
130 S. McKinley Ave.
Fort Lupton, CO 80621
(720)466-6107

Engineering
Roy Vestal
Public Works Director/City Engineer
130 S. McKinley Ave.
Fort Lupton, CO 80621
(720)466-6109

Fire
Taw Tamlin
Fire Marshal
Fort Lupton Fire Protection District
1121 Denver Ave.
Fort Lupton, CO 80621
303-857-4603

Utility Maintenance Statement

All Utility Maintenance shall be per Exhibit _ of the signed and recorded Development Agreement.

Sheet List Table			Revisions				
Page	Sheet Number	Sheet Title	A				
1	C1.0	Coversheet	✓				
2	C1.1	General Notes	✓				
3	C2.1	Phasing Plan	✓				
4	C3.1	Horizontal Control Plan	✓				
5	C3.2	Horizontal Control Plan	✓				
6	C3.3	Horizontal Control Plan	✓				
7	C4.1	Erosion and Sediment Control Plan	✓				
8	C4.2	Erosion and Sediment Control Details	✓				
9	C4.3	Erosion and Sediment Control Details	✓				
10	C5.1	Demolition Plan	✓				
11	C6.0	Overall Grading Plan	✓				
12	C6.1	Grading Plan	✓				
13	C6.2	Grading Plan	✓				
14	C8.0	Overall Utility Plan	✓				
15	C8.1	Typical Utility Services	✓				
16	C9.1	Sanitary Sewer Plan and Profile	✓				
17	C9.2	Sanitary Sewer Plan and Profile	✓				
18	C9.3	Sanitary Sewer Plan and Profile	✓				
19	C10.1	Potable Water Plan and Profile	✓				
20	C10.2	Potable Water Plan and Profile	✓				
21	C12.1	Storm Plan and Profile	✓				
22	C12.2	Storm Plan and Profile	✓				
23	C12.3	Storm Plan and Profile	✓				
24	C13.1	Eagle Avenue Plan and Profile	✓				
25	C13.2	Blue Devil Way Plan and Profile	✓				
26	C13.3	Shamrock Street Plan and Profile	✓				
27	C13.4	Kahil Street Plan and Profile	✓				
28	C13.5	Kahil Street Sections	✓				
29	C13.6	Denver Avenue Plan and Profile	✓				
30	C13.7	Denver Avenue Plan and Profile	✓				
31	C13.8	Denver Avenue Sections	✓				
32	C13.9	Denver Avenue Sections	✓				
33	C14.1	Paving Plan	✓				
34	C14.2	Paving Plan	✓				
35	C14.3	Signage and Striping Plan	✓				
36	C20.0	Details	✓				
37	C20.1	Details	✓				
38	C20.2	Details	✓				
39	C20.3	Details	✓				
40	C20.4	Details	✓				
41	LSP1	Land Survey Plat	✓				
42	L1.0	Landscape Plans	✓				
43	L2.0	Landscape Plans	✓				
44	L3.0	Landscape Plans	✓				
45	L4.0	Landscape Plans	✓				
46	L5.0	Landscape Plans	✓				
47	LT1.0	Lighting Plans	✓				

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents

Coversheet

Fort Lupton, CO

Sheet C1.0

General Project Notes

1. Contractor to coordinate all improvements with architectural, electrical, mechanical, plumbing, structural, irrigation, and landscape plans. Immediately notify Owner of any discrepancies.
2. All work shall conform to all local, state, and federal applicable laws and regulations.
3. All work shall be done in accordance with the site plans and specifications.
4. All necessary permits and approvals from agencies governing this work shall be secured by the Contractor prior to beginning construction.
5. Shop drawings and material submittals shall be submitted to Owner/Engineer for review and approval prior to placement of material.
6. Site Contractor is responsible for protection of all property corners and replacement of all pins eliminated or damaged during construction.
7. Site Contractor is responsible for protecting existing benchmarks and relocating benchmarks if necessary. Benchmarks shall be relocated to original elevations. If discrepancies exist between benchmarks listed on these plans and what is found in the field, contractor shall immediately notify engineer of the discrepancy.
8. Site Contractor shall match existing paving, curb, and gutter in grade and alignment.
9. Dimensions shown on the plans are to flowline, exterior face of building, and centerline of utilities, unless otherwise specified.
10. Any curb, gutter, or sidewalk damaged during construction shall be replaced by site Contractor.
11. Do not scale drawings. Inform Engineer of any discrepancies and/or missing information.
12. Contractor to obtain temporary power, telephone, and water for the site.
13. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2. 2012 IFC, 501.4

Project Control

Benchmark:
Project Benchmark: U260 Reset - Found a 3.5" brass cap set in concrete.
Published Elevation: 4893.9' (NAVD88)
Site Benchmark: CP97 - Set #4 Rebar 0.1' above grade
Elevation: 4919.45' (NAVD88)

Horizontal datum:
Modified Colorado State Plane Coordinates, North Zone, NAD 83 Datum.

Basis of Bearing:
Assuming the South Line of the SW 1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

Vertical Datum:
North American Vertical Datum 1988 (NAVD88)

Notes:
1. All property pins, intersection monuments, and section corners disturbed during construction must be referenced and replaced under the supervision of a licensed surveyor.
2. The size, type and location of all known underground utilities are approximate when shown on these drawings. It shall be the responsibility of the contractor to verify the existence of all underground utilities in the area of the work before commencing new construction. The contractor shall be responsible for locating all underground utilities and shall be responsible for all unknown underground utilities. Utility locates provided by Primo Utility Locating Services, LLC.
3. All project control listed hereon is provided as a courtesy. It is the responsibility of the contactor to verify the accuracy of the coordinates and elevations shown prior to using them for any purposes

Quaility Control Notes

1. Quality control within the right-of-way shall be completed per approval agency's requirements.
2. All material tests shall be in accordance with the Geotechnical Report and completed by the Geotechnical Engineer. Quantity and locations shall be at the direction of the Geotechnical Engineer.
3. Moisture density: tests shall be conducted on representative samples of each type of material encountered or utilized and will be used as a basis for compaction control.
4. Compaction control: field tests shall be conducted to determine compliance of compaction methods with specified density.
5. Density tests shall be taken in compacted material below the disturbed surface. When density tests indicate that the dry density or moisture content of any layer of fill or portion thereof is below that required, the particular layer or portion shall be reworked until the required dry density or moisture content has been achieved.
6. Unless otherwise directed by the Geotechnical Engineer, compaction shall be minimum of 95% of optimum density, in accordance with ASTM D 698, at a moisture content of not less than 2% below and not more than 2% above the optimum moisture content.
7. Parking subgrade shall be proof rolled to detect any areas of insufficient compaction. Proof rolling shall be accomplished by making a minimum of two (2) complete passes with a fully loaded tandem axle dump truck, or approved equivalent, in each of the two perpendicular directions under the supervision and direction of the Geotechnical Engineer. Areas of failure shall be scarified, recompacted, and retested.

Demolition Notes

1. Demolition shall include removal of existing objects or improvements, whether indicated on drawings or not, that would in any way prevent or interfere with progress or completion of proposed work.
2. Contractor shall provide protection and prevent damage to existing improvements indicated to remain in place. Contractor shall protect improvements on adjoining properties and on Owner's property. Contractor shall restore damaged improvements to original condition as acceptable to parties having jurisdiction.
3. Contractor shall ensure safe passage of persons around area of demolition and shall conduct operations to prevent damage to adjacent buildings, structures, other facilities, and injury to persons.
4. Contractor shall promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.
5. Contractor shall not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Contractor shall provide temporary services during interruptions to existing utilities as acceptable to governing authorities.
6. Contractor shall clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.
7. Contractor shall dispose of demolished materials in a legal manner.
8. Contractor shall conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Contractor shall not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.
9. Contractor shall clear site of trees, shrubs, and other vegetation and remove existing above grade and below grade improvements necessary to permit construction and other work.
10. Contractor shall repair damaged curb, gutter, and sidewalk per specific curb, gutter, and sidewalk details associated with damaged street section.
11. No person, firm, or corporation shall construct, enlarge, alter, repair, relocate, improve, remove, excavate, convert, or demolish any public improvements or private improvements in common ownership or permit the same to be done in violation of the City of Fort Lupton Standards and Specifications. Whenever any work is being done contrary to the provisions of the City of Fort Lupton Standards and Specifications, the City Manager or his designee may order the work stopped by a written notice in accordance with Section 1.26.04 of the City of Fort Lupton Standards and Specifications.

Seeding Notes

1. Unless otherwise specified by the Landscape Plan, restoration of areas within any areas disturbed by grading activities shall be done in compliance with the requirements outlined in City of Fort Lupton Standards and Specifications Manual 2.20.00.
2. Restoration of areas prior to the installation of landscaping, where activities have ceased for 30 days or more, shall be permanently seeded per the requirements outlined in City of Fort Lupton Standards and Specifications Manual 2.25.00 and 2.26.00.

General Utility Notes

1. All overlot grading in the right-of-way or easement shall be completed prior to installing potable water, sanitary sewer, or non-potable irrigation lines.
2. Contractor shall call Utility Notification Center of Colorado at 811 for utility locates at least 72 hours before digging, grading, or excavating for the marking of underground member utilities.
3. Any deviations from the locations shown on the construction documents shall be reported to the design Engineer prior to construction.
4. All proposed secondary service locations are approximate and are shown for coordination purposes only.
5. All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building.
6. Appropriate backflow prevention assemblies are required on the applicable uses including the domestic water service, fire sprinkler system, and landscape irrigation system.
7. Contractor shall install conduit as needed to facilitate installation of dry utilities.

Erosion Control Notes

1. Additional erosion and sediment control measures may be needed if unforeseen problems occur or if the submitted plan does not function as intended. The requirements of this plan shall run with the land and be the obligation of the Owner until such time as the plan is properly completed, modified, or voided.
2. The Owner and/or Contractor shall obtain all permits required relative to stormwater discharges due to construction activities prior to construction.
3. The Contractor shall install all perimeter sediment and erosion control devices including silt fencing, sediment basins, and stormwater treatment basins before commencing any land clearing activity.
4. Contractor shall be responsible for maintaining the integrity of the silt fences throughout the construction process and until permanent ground vegetation has been established to the satisfaction of the Engineer.
5. Contractor shall install sediment basins as needed immediately after constructing silt fences.
6. Sediment basins are temporary construction facilities and shall be removed prior to removal of the silt fences.
7. Contractor shall maintain sediment basins by cleaning them when they become half-full of sediment.
8. Following the placement of silt fence and sediment basins, the Contractor may begin clearing and grubbing operations. Operation does not include topsoil stripping.
9. The Contractor shall limit topsoil stripping operations to within the areas in which they are immediately working.
10. Contractor shall strip topsoil to whatever depths encountered to prevent intermingling with underlying subsoil. Stockpile topsoil in storage piles in areas shown or where directed. Construct storage piles to freely drain surface water, cover storage piles if required to prevent windblown dust, and install erosion control devices to prevent topsoil leaving the stockpile area.
11. The Contractor shall roughen the surface or provide either temporary or permanent ground cover within fourteen (14) days of disturbance. This requirement shall be imposed if the Contractor has an area exposed for fourteen (14) days or more without performing grading operations within the area.
12. The Contractor shall be responsible for maintenance of all erosion control devices and practices. It is the intent of these plans and the desire of the Owner to provide high quality erosion and sediment control.
13. The Contractor shall be responsible for any and all fines associated with discharge of sediments, erosion, or pollutants caused by this work.
14. All work shall be done in accordance with standards, specifications, and project drawings. The site Contractor shall construct and maintain erosion and sediment control devices on-site during construction in accordance with the above.
15. The site Contractor is responsible for removing silt from site and shall remove any silt beyond the property resulting from construction activity.
16. The site Contractor is responsible for removing the temporary erosion and sediment control devices after completion of construction and only when areas have been stabilized per permit requirements.
17. Additional on-site protection, in addition to above, must be provided to prevent silt from leaving the project confines due to unforeseen conditions or accidents.
18. Site Contractor is responsible for cleaning out all storm drainage structures, including flumes, pipes, etc., prior to completion of project.
19. Any areas disturbed by construction where activities have ceased for 30 days or more shall be permanently seeded to control erosion.
20. For silt fence and vehicle tracking control installation see detail EC 15 and EC 8.
21. For inlet protection see detail EC 6 and EC 7.
22. For construction staging area see detail SM-6.
23. For stockpile management see detail MM-2.
24. See BMP Gantt Chart detail L1-8 and Construction Phasing/Sequencing detail SM-1 for general timeline.
25. Contractor will be required to sweep or vacuum any visible sediment that is tracked onto streets after each day of work.
26. Inspection of all erosion and sediment control BMP's shall be required at the end of each day's work, with necessary maintenance and repairs provided immediately.
27. Storm drain inlets shall be protected from the entry of sediment-laden water until final stabilization is complete.
28. Eco-pans or equivalent shall be required to be used during concrete placement activities for concrete wash-outs.

Fugitive Dust Control Notes

1. Control of unpaved roads:
   a. Watering shall be completed as needed to control dust.
   b. Speeds shall be limited to prevent dust.
2. Control of disturbed areas:
   a. Watering shall be completed as needed to control dust.
   b. Vehicle speeds shall be limited to ten (10) miles per hour.
   c. Revegetation shall be completed within 30 days of soil disturbance, see Seeding Notes.
   d. Furrowing of disturbed soil shall be provided at right angles to prevailing winds and shall be a minimum of six (6) inches in depth.
   e. Compaction of disturbed soils shall be completed based on Geotechnical Report.
   f. Silt fence shall be installed for wind break as needed.
3. A water source must be available on site during earthwork operations and utilized as required to minimize dust from earthwork equipment and wind.
4. The Contractor shall ensure that all loads of cut and fill material imported to or exported from the site shall be properly covered to prevent loss of the material during transport on public right-of-way.

Grading Notes

1. Caution - Notice to Contractor. The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The Contractor must call the appropriate utility company at least 72 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the Contractor to relocate all existing utilities that conflict with the proposed improvements shown on the plans.
2. Erosion control measures must be in place prior to any land disturbing activity commencing.
3. Clearing and grubbing limits shall include all areas disturbed by grading operations.
4. Disturbed areas shall be seeded as per Landscape Plans. Temporary seeding, if required, shall be installed per Seeding Notes.
5. Subgrade shall be compacted and shaped per specifications prior to application of base material.
6. No asphalt or concrete paving shall be installed until all utilities in or crossing paved areas have been installed and the base course is approved.
7. No paving shall be installed until approval is given as to type of paving material used.
8. Grades shown are finished grades. For subgrade elevations see paving sections and details.
9. It is the Builder/Owner's responsibility to provide site grading in a manner consistent with development plans regarding site drainage. Drainage easements shall not be restricted. On-site and pass-through runoff shall be routed to streets, along property lines, and through easements in a manner which controls surface runoff.
10. Site Contractor shall coordinate with building Contractor on placing final asphalt wearing surface on all paved areas. Timing shall be coordinated to minimize construction-type traffic on final wearing surface.
11. The site Contractor is responsible for verifying plan alignment and grade in all ditches at completion of construction.
12. All elevations reference flowline unless otherwise specified.

Sanitary Sewer Notes

1. Construction of sanitary sewer systems shall comply with site plans and City of Fort Lupton Standards and Specifications Manual Chapter 4..

Potable Water Notes

1. Construction of potable water system shall comply with site plans and City of Fort Lupton Standards and Specifications Manual Chapter 3.
2. Water valves within pavement shall be set to finish grade per Detail W1 - Valve Box.
3. For thrust block installation see Thrust Block Details W3, W4, and W5.

Stormwater Notes

1. Construction of stormwater facilities shall comply with site plans and City of Fort Lupton Standards and Specifications Manual Chapter 5.

Paving Notes

1. Contractor shall complete a final pavement design report upon completion of overlot grading and submit to Engineer of record prior to paving operations.
2. Pavement section shall be installed per site plans and in accordance with the recommendations and specifications of the Geotechnical Engineering Report.
3. Contractor shall saw cut all existing tie in points to a clean straight edge. All saw cuts shall comply with City street standards and specifications.
4. Patching of existing asphalt in the public right-of-way shall be completed per approval agency's specifications.
5. Concrete curb and gutter within right-of-way shall be installed per Detail R7 and R8. Transition site curb and gutter to Detail R7 and existing condition.
6. The maximum allowable cross slope on sidewalks is 1:48 per Americans with Disabilities Act (ADA) design standards. [2010 ADA Standards, Section 405.3]
7. Install concrete cross pans per Detail R11.

Signage and Pavement Marking Notes

1. Striping and signage in public right-of-way shall conform in size, color, material of construction, mounting height, and location in accordance with the standards in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD), Millennium Edition, as well as the City of Fort Lupton Standards and Specifications Manual Chapter 6.

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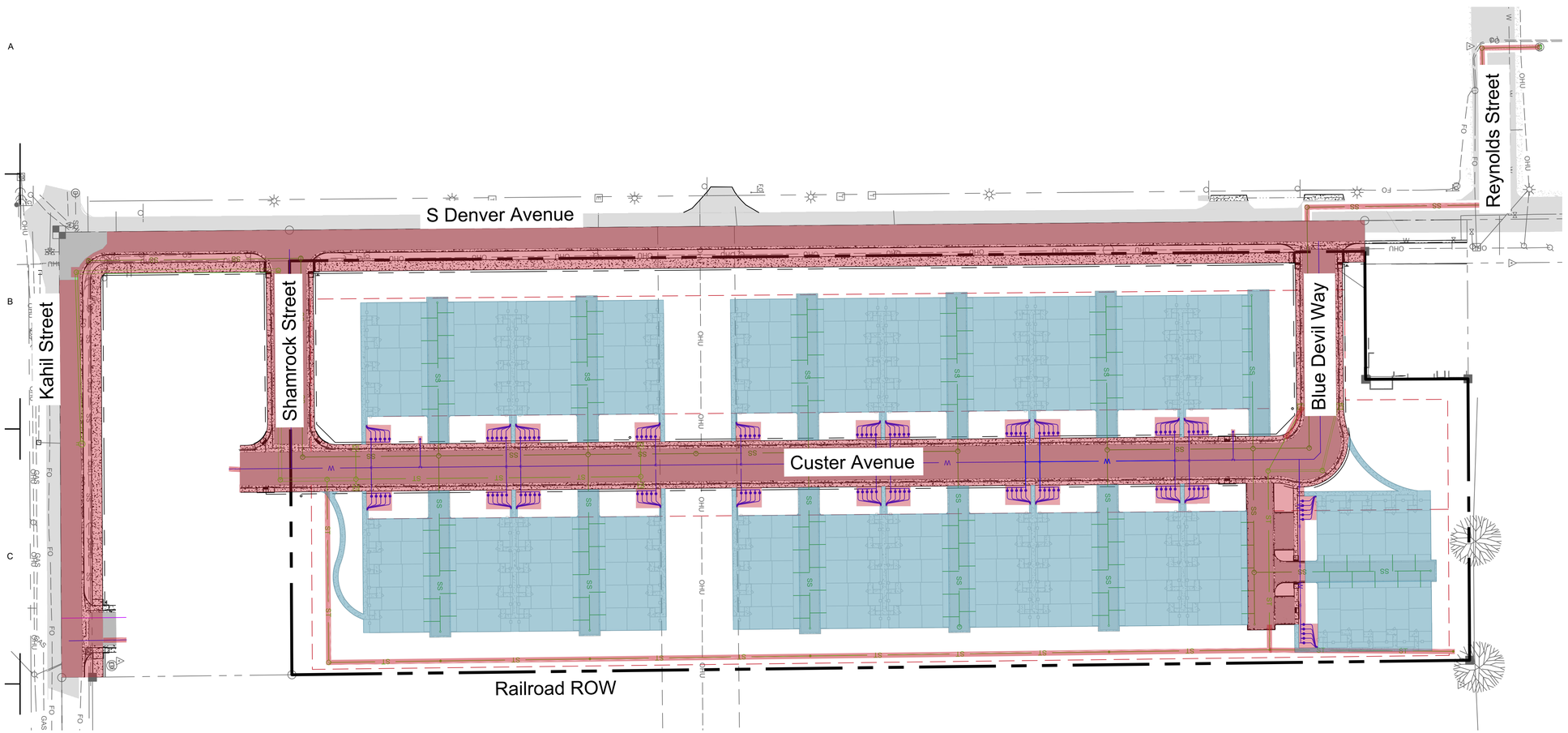
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The Flats at Lupton Village
Construction Documents
General Notes
Fort Lupton, CO

Sheet C1.1



N

Scale: 1" = 60'

Legend

Existing		Proposed
	Property Line	
	Right of Way	
	Easement	
W	Potable Water	W
	Water Meter	
SS	Sanitary Sewer	SS
ST	Storm	ST
E	Electric	E
	Communications	TELE
GAS	Gas	GAS
FO	Fiber Optic	
	Light Pole	
	Flowline	
	Curb and Gutter	
	Fence	
	Concrete	
	Horizontal Contractor Hardscape Limits (Phase 1)	
	Vertical Contractor Limits (Phase II)	

Phasing Plan Notes:

1. The Horizontal Contractor (Phase 1) is responsible for installing all storm water mains and structures, water mains, water meter pits, fire hydrants, water service lines to 5' past manifold, sanitary sewer lines and structures, and sanitary sewer stubs to clean out locations.
2. Horizontal Contractor (Phase 1) is responsible for installing the sanitary sewer service lines in the private drives as well as the individual sanitary sewer stubs to the clean out locations for each unit.
3. Overlot Grading to be completed as part of Phase 1 (Horizontal)
4. Water Service Manifolds to be installed as part of Phase 1 (Horizontal)
   4.1. The service lines to be pigtailed above ground 5' past manifold.
5. Horizontal Contractor to install all ADA Ramps.

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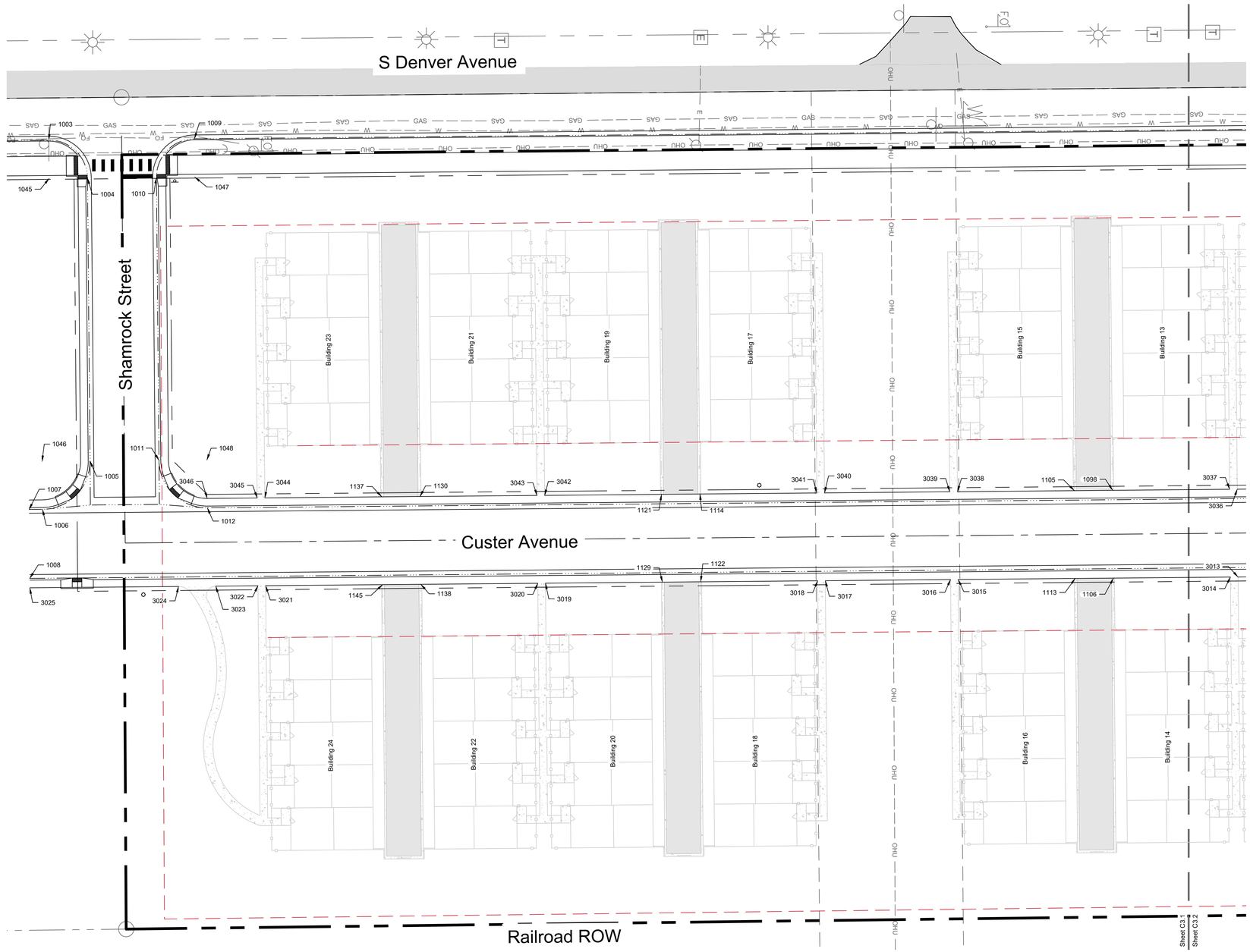
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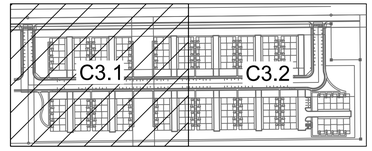
The Flats at Lupton Village
Construction Documents

Phasing Plan
Limits of Construction

Fort Lupton, CO

Sheet C2.1





Keymap
NTS

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Scale: 1" = 30'

Legend

Existing	Proposed
Project Boundary	
Right of Way	
Easement	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

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The Flats at Lupton Village
Construction Documents

Horizontal Control Plan

Fort Lupton, CO

Sheet C3.1

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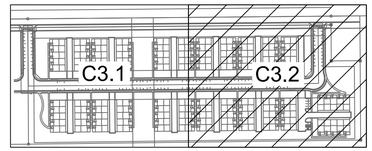
S Denver Avenue

Blue Devil Way

Custer Avenue

Building 13
Building 11
Building 9
Building 7
Building 5
Building 3
Building 1
Building 2
Building 4
Building 6
Building 8
Building 10
Building 12
Building 14

Sheet C3.1
Sheet C3.2



Keymap
NTS

N

30 60
Scale: 1" = 30'

Legend

Existing	Proposed
Project Boundary	
Right of Way	
Easement	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

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The Flats at Lupton Village
Construction Documents

Horizontal Control Plan

Fort Lupton, CO

Sheet C3.2

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Point Table			
Point #	Northing	Easting	Description
1003	1270701.96	3193824.36	Flowline
1004	1270722.14	3193844.18	Flowline
1005	1270723.46	3193991.84	Flowline
1006	1270698.69	3194017.06	Flowline
1007	1270691.69	3194017.12	Flowline
1008	1270692.01	3194053.12	Flowline
1009	1270777.96	3193823.68	Flowline
1010	1270758.14	3193843.86	Flowline
1011	1270759.46	3193991.52	Flowline
1012	1270784.68	3194016.29	Flowline
1013	1271704.43	3194008.06	Flowline
1014	1271729.20	3193982.84	Flowline
1015	1271727.88	3193835.18	Flowline
1016	1271707.71	3193815.36	Flowline
1017	1271704.77	3194044.06	Flowline
1018	1271717.28	3194045.95	Flowline
1019	1271767.31	3193995.01	Flowline
1020	1271765.20	3193982.54	Flowline
1021	1271763.88	3193834.86	Flowline
1022	1271783.70	3193814.68	Flowline
1023	1271701.41	3194049.01	Flowline
1024	1271675.42	3194049.24	Flowline
1026	1271701.67	3194077.99	Flowline
1027	1271720.67	3194077.82	Flowline
1028	1271721.00	3194113.81	Flowline
1030	1271702.00	3194113.98	Flowline
1031	1271712.10	3194125.89	Flowline
1034	1271712.28	3194145.89	Flowline
1036	1271702.41	3194159.79	Flowline
1037	1271721.41	3194159.62	Flowline

Point Table			
Point #	Northing	Easting	Description
1038	1271721.65	3194186.61	Flowline
1039	1271702.65	3194186.78	Flowline
1040	1271702.67	3194188.78	Flowline
1041	1271702.69	3194191.75	Flowline
1042	1271676.69	3194191.98	Flowline
1043	1271675.66	3194076.82	Flowline
1044	1271890.82	3193813.72	Flowline
1045	1270702.14	3193844.36	Flowline CP 20' Radius
1046	1270698.46	3193992.06	Flowline CP 25' Radius
1047	1270778.14	3193843.68	Flowline CP 20' Radius
1048	1270784.46	3193991.29	Flowline CP 25' Radius
1049	1271783.88	3193834.68	Flowline CP 20' Radius
1050	1271707.88	3193835.36	Flowline CP 20' Radius
1051	1271704.21	3193983.06	Flowline CP 25' Radius
1052	1271805.20	3193982.18	Flowline CP 40' Radius
1053	1271729.43	3194007.84	Flowline CP 40' Radius
1054	1271705.13	3194084.06	Flowline CP 40' Radius
1055	1271676.65	3194186.98	Flowline
1056	1271732.13	3194125.72	Flowline
1057	1271732.31	3194145.71	Flowline
1060	1271698.01	3194003.20	Flowline
1061	1271678.01	3194003.38	Flowline
1066	1271549.01	3194004.54	Flowline
1073	1271529.01	3194004.71	Flowline
1074	1271549.42	3194050.37	Flowline
1081	1271529.42	3194050.55	Flowline
1082	1271403.02	3194005.84	Flowline
1089	1271383.02	3194006.02	Flowline
1090	1271403.43	3194051.67	Flowline
1097	1271383.43	3194051.85	Flowline

Point Table			
Point #	Northing	Easting	Description
1098	1271257.02	3194007.15	Flowline
1105	1271237.02	3194007.33	Flowline
1106	1271257.43	3194052.98	Flowline
1113	1271237.43	3194053.16	Flowline
1114	1271041.67	3194009.08	Flowline
1121	1271021.67	3194009.25	Flowline
1122	1271042.08	3194054.91	Flowline
1129	1271022.08	3194055.09	Flowline
1130	1270895.68	3194010.38	Flowline
1137	1270875.68	3194010.56	Flowline
1138	1270896.09	3194056.21	Flowline
1145	1270876.09	3194056.39	Flowline
3000	1271790.92	3193833.11	Sidewalk
3001	1271790.86	3193823.12	Sidewalk
3002	1271775.57	3194002.60	Sidewalk
3003	1271770.04	3193973.19	Sidewalk
3004	1271774.16	3194011.92	Sidewalk
3005	1271724.95	3194052.53	Sidewalk
3006	1271720.94	3194051.95	Sidewalk
3007	1271715.79	3194050.63	Sidewalk
3008	1271704.82	3194048.98	Sidewalk
3009	1271614.42	3194049.79	Sidewalk
3010	1271610.42	3194049.82	Sidewalk
3011	1271468.42	3194051.09	Sidewalk
3012	1271464.42	3194051.13	Sidewalk
3013	1271322.43	3194052.40	Sidewalk
3014	1271318.43	3194052.43	Sidewalk
3015	1271176.44	3194053.70	Sidewalk
3016	1271172.44	3194053.74	Sidewalk
3017	1271107.08	3194054.33	Sidewalk

Point Table			
Point #	Northing	Easting	Description
3018	1271103.08	3194054.36	Sidewalk
3019	1270961.09	3194055.63	Sidewalk
3020	1270957.09	3194055.67	Sidewalk
3021	1270815.09	3194056.94	Sidewalk
3022	1270811.09	3194056.97	Sidewalk
3023	1270789.08	3194057.17	Sidewalk
3024	1270769.67	3194057.34	Sidewalk
3025	1270692.05	3194058.04	Sidewalk
3030	1271724.29	3193982.88	Sidewalk
3031	1271704.39	3194003.15	Sidewalk
3032	1271614.01	3194003.95	Sidewalk
3033	1271610.01	3194003.99	Sidewalk
3034	1271468.01	3194005.26	Sidewalk
3035	1271464.01	3194005.30	Sidewalk
3036	1271322.02	3194006.57	Sidewalk
3037	1271318.02	3194006.60	Sidewalk
3038	1271176.03	3194007.87	Sidewalk
3039	1271172.03	3194007.91	Sidewalk
3040	1271106.67	3194008.49	Sidewalk
3041	1271102.67	3194008.53	Sidewalk
3042	1270960.68	3194009.80	Sidewalk
3043	1270956.68	3194009.84	Sidewalk
3044	1270814.68	3194011.11	Sidewalk
3045	1270810.68	3194011.14	Sidewalk
3046	1270784.64	3194011.37	Sidewalk

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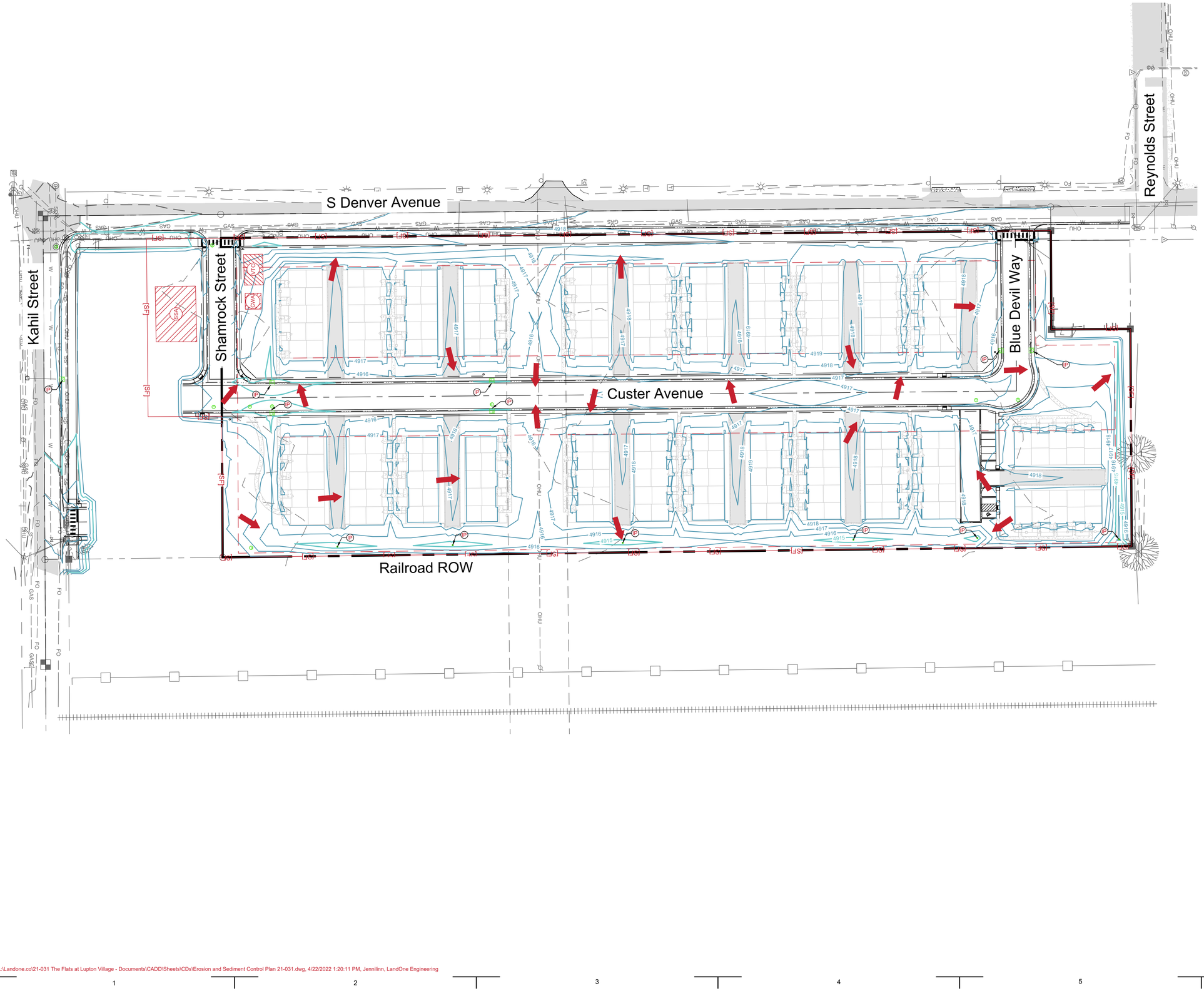
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The Flats at Lupton Village
Construction Documents

Horizontal Control Plan

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Sheet C3.3



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PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number	21-031
Checked By	JG
Date	04/22/2022

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Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents

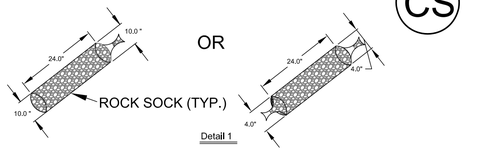
Erosion and Sediment Control Plan

Fort Lupton, CO

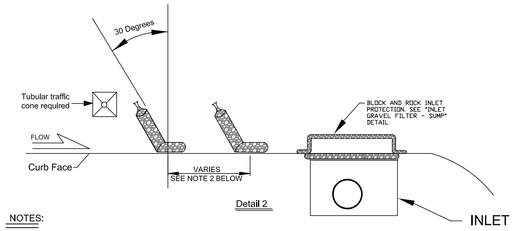
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L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Erosion and Sediment Control Plan 21-031.dwg, 4/22/2022 1:20:11 PM, Jennilinn, LandOne Engineering

CS



Detail 1



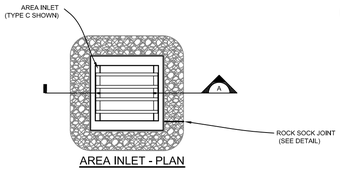
Detail 2

NOTES:

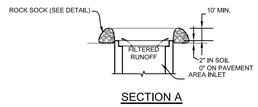
1) SOCKS WILL BE USED UPGRADIENT OF THE INLET AND FLUSH WITH THE CURB.
2) NO LESS THAN TWO 10 INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4 INCH SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3) ALIGN AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2.
4) EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE CITY.

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	ON GRADE INLET PROTECTION	EC 6
		DATE: 8/15/14

IP



AREA INLET - PLAN



SECTION A

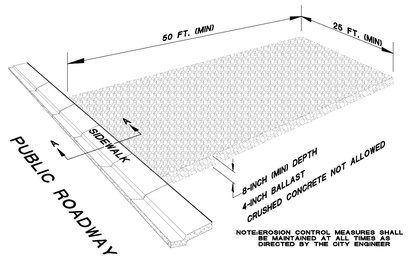
INLET PROTECTION INSTALLATION NOTES

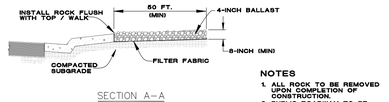
1. INLET PROTECTION AFTER INLET CONSTRUCTION OF AFTER PAVEMENT SHALL BE INSTALLED WITHIN 48 HOUR AFTER INLET CONSTRUCTION OR PAVING IS COMPLETED.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

INLET PROTECTION MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT INLET PROTECTION WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY. INSPECT MORE FREQUENTLY DURING WINTER CONDITIONS DUE TO FREEZE/THAW PROBLEMS. REPAIRS AS NEEDED.
2. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF ROCK BERM IS WITHIN 2-1/2 INCHES OF THE CREST.
3. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED, UNLESS THE CITY APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
4. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, DRILL SEEDED AND CRIMP MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY .

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	AREA INLET PROTECTION USING GRAVEL FILTER	EC 7
		DATE: 8/15/14





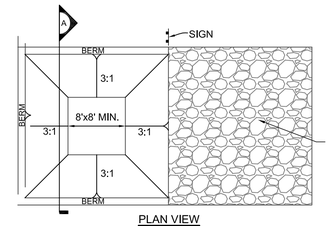
SECTION A—A
-NTS-

NOTES

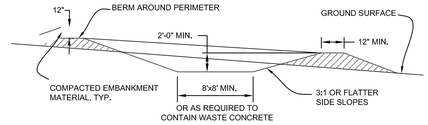
1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT AND DEBRI AT ALL TIMES.

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VEHICLE TRACKING PAD	EC 8
		DATE: 8/15/14

CWA



PLAN VIEW



SECTION A

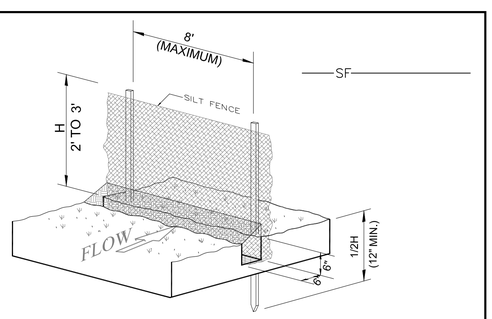
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT ARE TO OPERATORS OF CONCRETE TRCUYKS AND PUMP RIGS.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

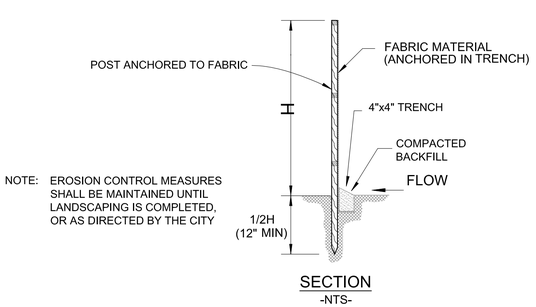
1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AND APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH, OR OTHERWISE STABILZE IN A MANNER APPROVED BY THE CITY.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
5. PORTABLE ROLLOFF TYPE OF CONCRETE WASHOUT FACILITIES WILL ALSO BE ALLOWED.

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	CONCRETE WASHOUT AREA	EC 9
		DATE: 8/15/14



SILT FENCE INSTALLATION

-NTS-



SECTION

-NTS-

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	SILT FENCE	EC 15
		DATE: 8/15/14

	Construction Phases							
Best Management Practice (BMP's)	Mobilization	Demolition	Grading	Utilitiy Installation	Flat Work Installation	Vertical Installation	Landscape	Demobilization
Structural "Installation"								
Silt Fence Barriers*								
Contour Furrows (Ripping/Disking)								
Sediment Trap/Filter								
Vehicle Tracking Pad*								
Flow Barriers (Wattles)*								
Inlet Filter Bags*	Any prior inlets that could use protecting.							
Rock Bags*	Any prior inlets that could use protecting.							
Terracing								
Stream Flow Diversion*								
Rip Rap								
Collecting Asphalt/Concrete Saw Cutting Waste								
*All BMP's to be removed once construction is complete.								
Vegetative								
Temporary Seeding Planting		Any time the site will sit dormant longer than 30 days.						
Mulching/Sealant		Any time the site will sit dormant longer than 30 days.						
Permanent Seeding Planting								
Sod Installation								
Rolled Products: Netting/Blankets/Mats		Any time the site will sit dormant longer than 30 days.						
Other:								

BMP Gantt Chart

Detail L1-8

February 15, 2018

Not to Scale

Name	Detail Number	Reference Sheet	Detail Sheet	Source
Erosion and Sediment Control Details				
On Grade Inlet Protection	EC 6	C4.1	C4.2	Fort Lupton
Area Inlet Protection Using Gravel Filter	EC 7	C4.1	C4.2	Fort Lupton
Vehicle Tracking Pad	EC 8	C4.1	C4.2	Fort Lupton
Concrete Washout Area	EC 9	C4.1	C4.2	Fort Lupton
Silt Fence	EC 15	C4.1	C4.2	Fort Lupton
BMP Gantt Chart	L1-6	C4.1	C4.2	LandOne
Construction Phasing/Sequencing (CP)	SM-1	C4.1	C4.3	Mile High Flood District
Stabilized Staging Area	SM-6	C4.1	C4.3	Mile High Flood District

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The Flats at Lupton Village
Construction Documents

Erosion and Sediment Control Details

Fort Lupton, CO

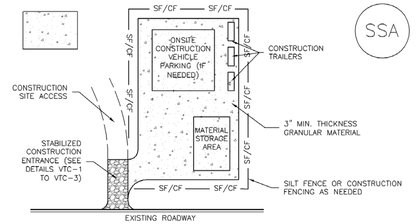
Sheet C4.2

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Table CP-1. Typical Phased BMP Installation for Construction Projects

Project Phase	BMPs
Pre-disturbance, Site Access	▪ Install sediment controls downgradient of access point (on paved streets this may consist of inlet protection). ▪ Establish vehicle tracking control at entrances to paved streets. Fence as needed. ▪ Use construction fencing to define the boundaries of the project and limit access to areas of the site that are not to be disturbed. **Note: it may be necessary to protect inlets in the general vicinity of the site, even if not downgradient, if there is a possibility that sediment tracked from the site could contribute to the inlets.**
Site Clearing and Grubbing	▪ Install perimeter controls as needed on downgradient perimeter of site (silt fence, wattles, etc). ▪ Limit disturbance to those areas planned for disturbance and protect undisturbed areas within the site (construction fence, flagging, etc). ▪ Preserve vegetative buffer at site perimeter. ▪ Create stabilized staging area. ▪ Locate portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds. ▪ Construct concrete washout area and provide signage. ▪ Establish waste disposal areas. ▪ Install sediment basins. ▪ Create dirt perimeter berms and/or brush barriers during grubbing and clearing. ▪ Separate and stockpile topsoil, leave roughened and/or cover. ▪ Protect stockpiles with perimeter control BMPs. Stockpiles should be located away from drainage paths and should be accessed from the upgradient side so that perimeter controls can remain in place on the downgradient side. Use erosion control blankets, temporary seeding, and/or mulch for stockpiles that will be inactive for an extended period. ▪ Leave disturbed area of site in a roughened condition to limit erosion. Consider temporary revegetation for areas of the site that have been disturbed but that will be inactive for an extended period. ▪ Water to minimize dust but not to the point that watering creates runoff.

Project Phase	BMPs
Utility And Infrastructure Installation	**In Addition to the Above BMPs:** ▪ Close trench as soon as possible (generally at the end of the day). ▪ Use rough-cut street control or apply road base for streets that will not be promptly paved. ▪ Provide inlet protection as streets are paved and inlets are constructed. ▪ Protect and repair BMPs, as necessary. ▪ Perform street sweeping as needed.
Building Construction	**In Addition to the Above BMPs:** ▪ Implement materials management and good housekeeping practices for home building activities. ▪ Use perimeter controls for temporary stockpiles from foundation excavations. ▪ For lots adjacent to streets, lot-line perimeter controls may be necessary at the back of curb.
Final Grading	**In Addition to the Above BMPs:** ▪ Remove excess or waste materials. ▪ Remove stored materials.
Final Stabilization	**In Addition to the Above BMPs:** ▪ Seed and mulch/tackify. ▪ Seed and install blankets on steep slopes. ▪ Remove all temporary BMPs when site has reached final stabilization.



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF STAGING AREA(S).
   -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

LANDONE engineering
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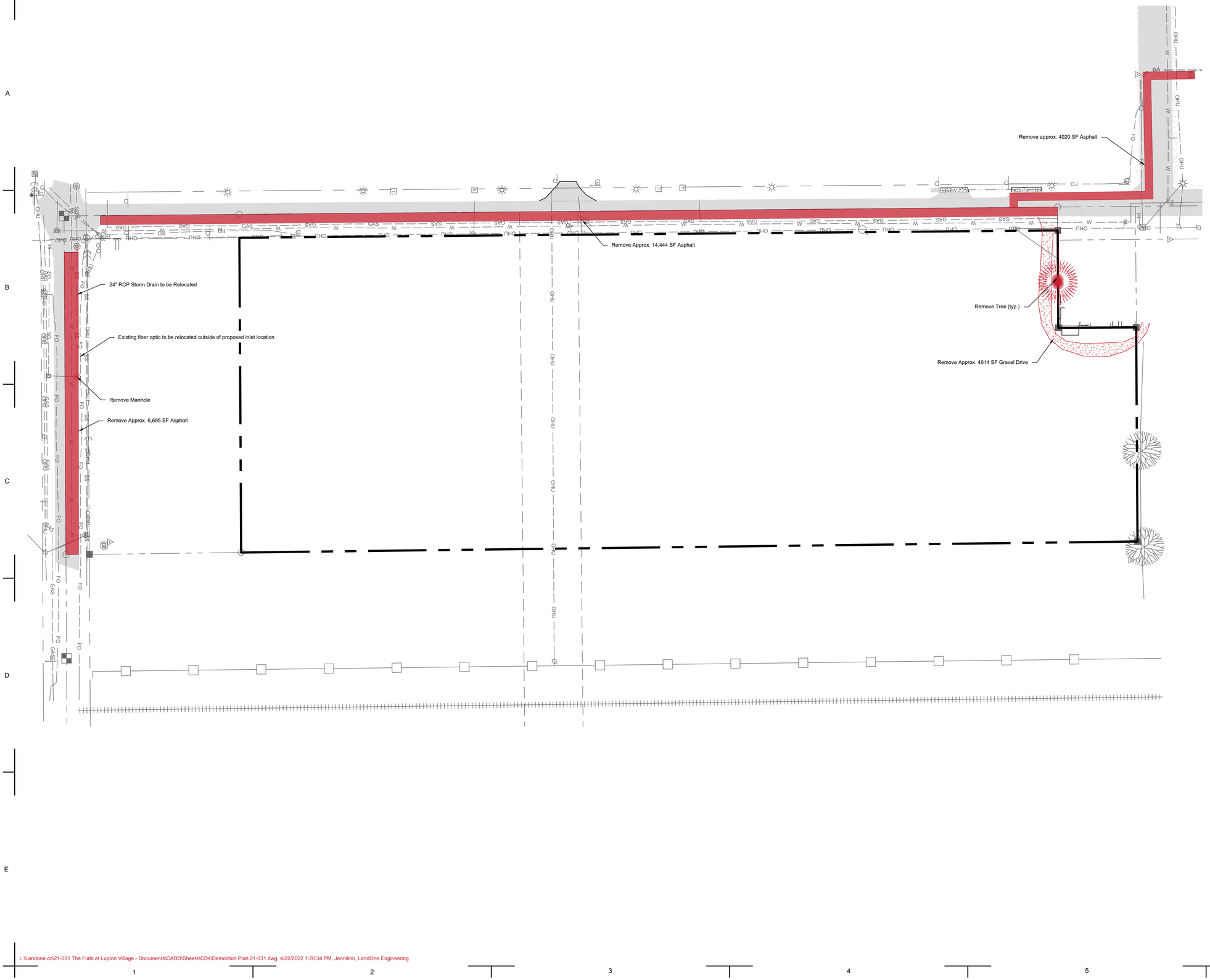
The Flats at Lupton Village
Construction Documents

Erosion and Sediment Control Details

Fort Lupton, CO

Sheet C4.3

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N

Scale: 1" = 60'

60 120

Legend

Existing	Proposed
	Property Line
	Right of Way
	Easement
FO	Fiber Optic
GAS	Gas
W	Potable Water
F	Fire Line
NPW	Non-Potable Water
SS	Sanitary Sewer
ST	Storm
E	Electric
4800	Major Contour
4801	Minor Contour
	Flowline
	Pavement
	Concrete

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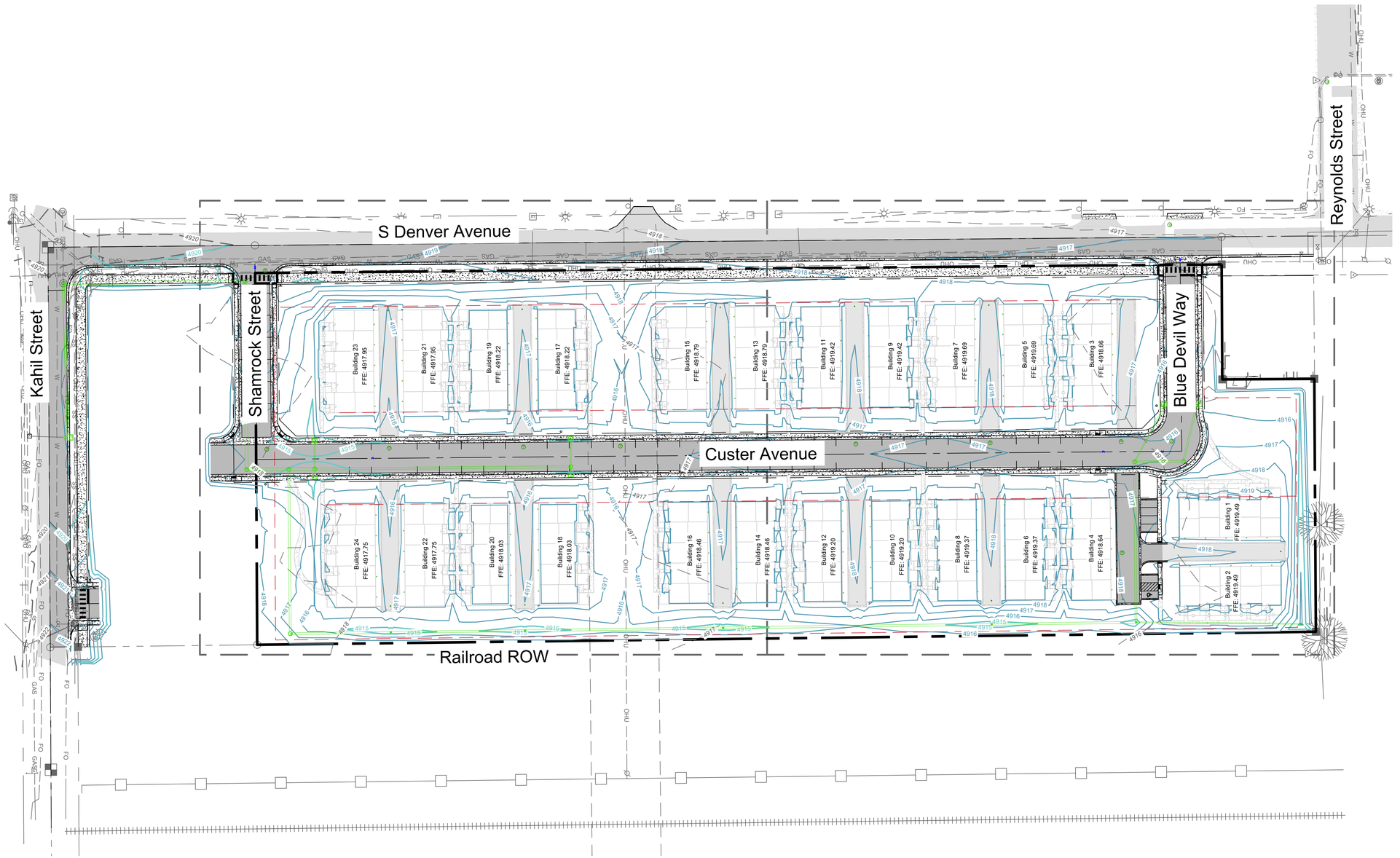
The Flats at Lupton Village
Construction Documents

Demolition Plan

Fort Lupton, CO

Sheet C5.1

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Scale: 1" = 60'

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
4800 Major Contour	4800
4801 Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Grading Plan Notes

1. FFEs are provided as reference only of possible future design, as well as to convey a design intent. Grading of townhomes, individual sidewalks, and driveways will be completed at time of plot plan.

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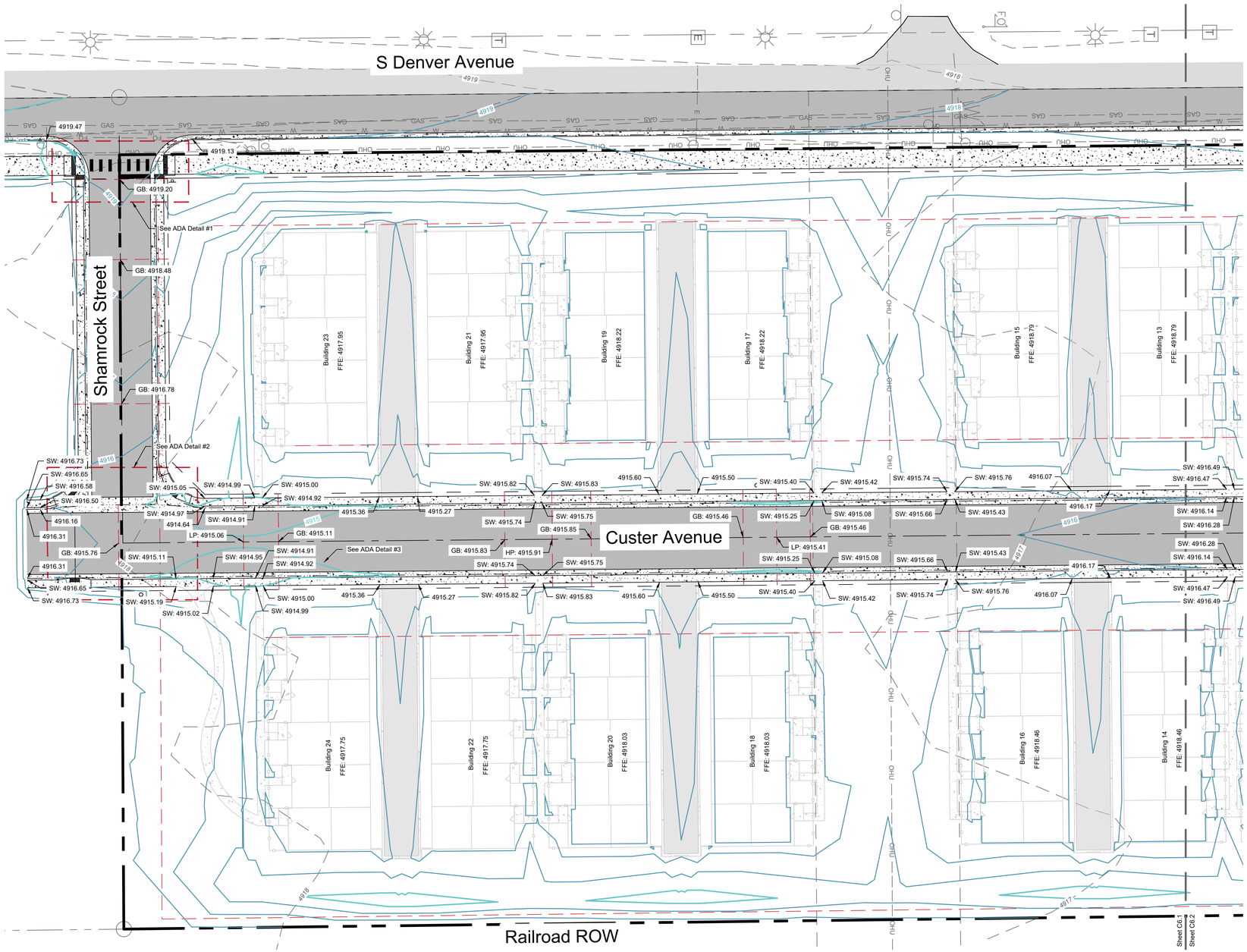
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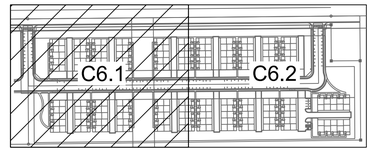
The Flats at Lupton Village
Construction Documents

Overall Grading Plan

Fort Lupton, CO

Sheet C6.0





Keymap
NTS

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Scale: 1" = 30'

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
Major Contour	4800
Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

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The Flats at Lupton Village
Construction Documents
Grading Plan
Fort Lupton, CO

Sheet C6.1

S Denver Avenue

Custer Avenue

Blue Devil Way

Building 13 FFE: 4918.79
Building 11 FFE: 4919.42
Building 9 FFE: 4919.42
Building 7 FFE: 4919.69
Building 5 FFE: 4919.69
Building 3 FFE: 4918.66
Building 14 FFE: 4918.46
Building 12 FFE: 4919.20
Building 10 FFE: 4919.20
Building 8 FFE: 4919.37
Building 6 FFE: 4919.37
Building 4 FFE: 4918.64
Building 1 FFE: 4919.49
Building 2 FFE: 4919.49

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4916.42
GB: 4916.80
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Sheet C6.1
Sheet C6.2

C6.1 C6.2

Keymap
NTS

N

30 60
Scale: 1" = 30'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

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Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

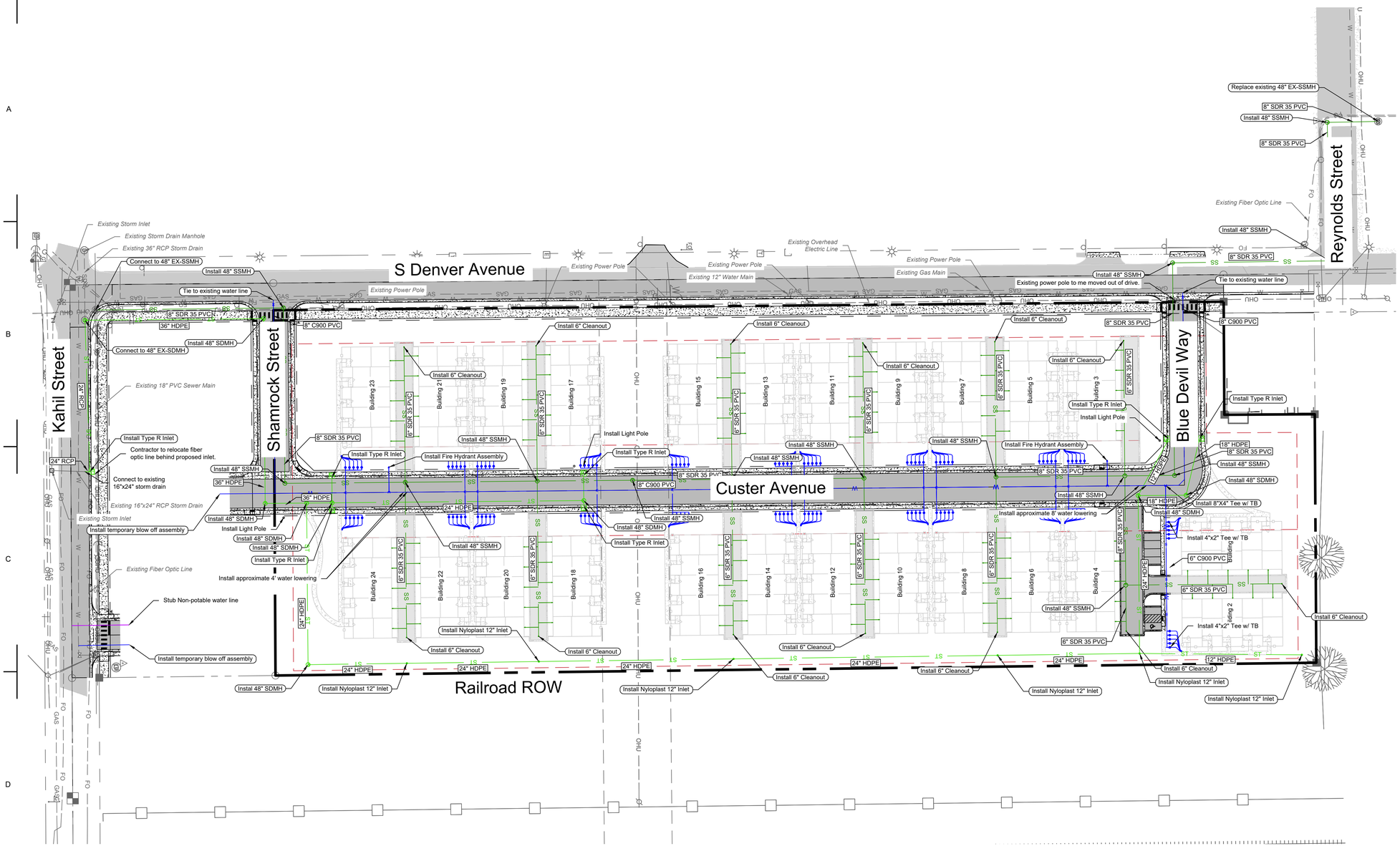
The Flats at Lupton Village
Construction Documents

Grading Plan

Fort Lupton, CO

Sheet C6.2

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Grading Plan 21-031.dwg, 4/22/2022 1:21:43 PM, Jennilinn, LandOne Engineering



N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

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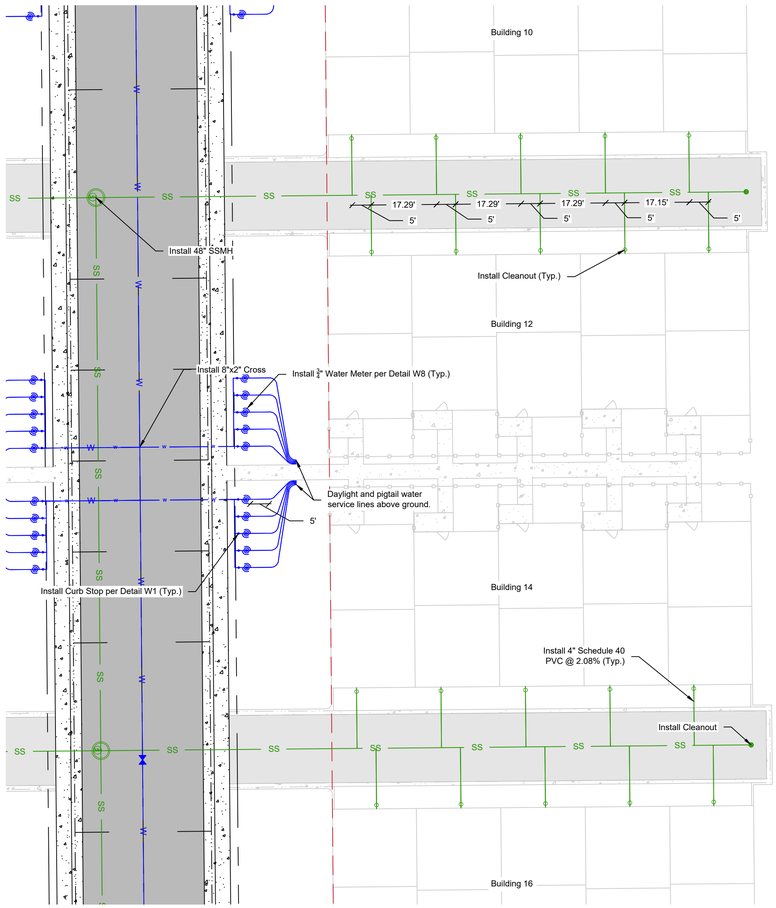
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Rev. No.	Date	Revision Description
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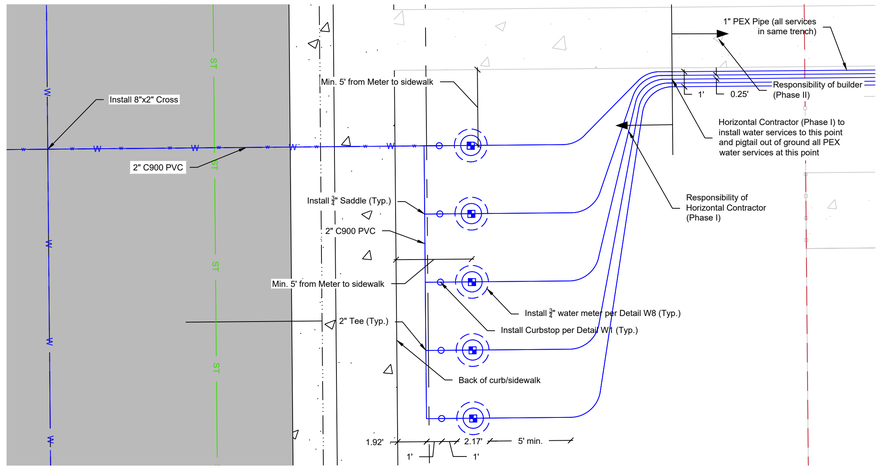
The Flats at Lupton Village
Construction Documents
Overall Utility Plan
Fort Lupton, CO

Sheet C8.0

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Overall Utility Plan 21-031.dwg, 4/22/2022 1:22:18 PM, Jennilinn, LandOne Engineering



Phase I (Horizontal) Typical 5-Plex Utility Layout
Scale: 1" = 20'



Typical Water Service Meter/Curbstop Layout
Scale: 1" = 5'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

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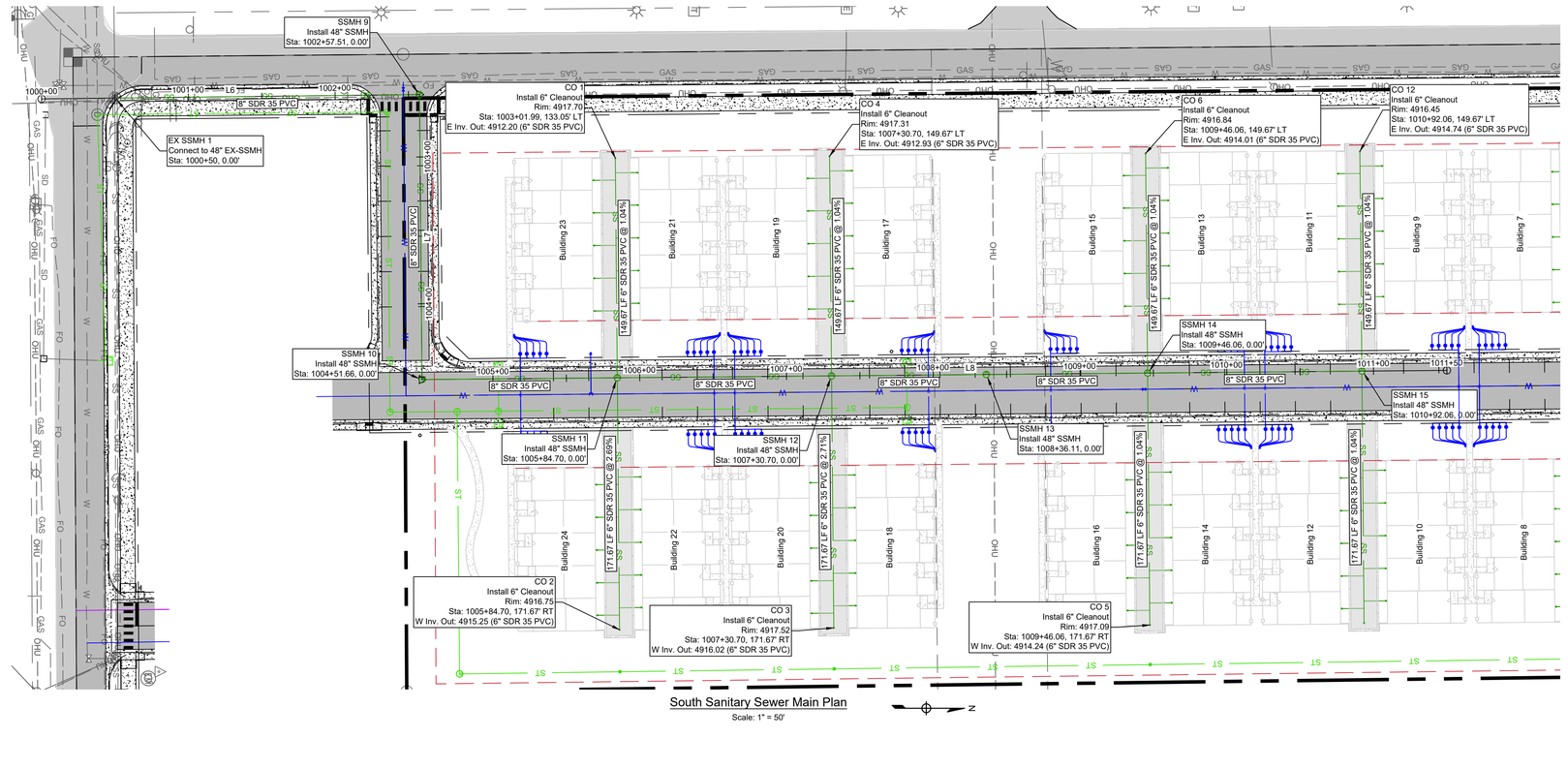
Rev. No.	Date	Revision Description
A.	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents

Typical Utility Services

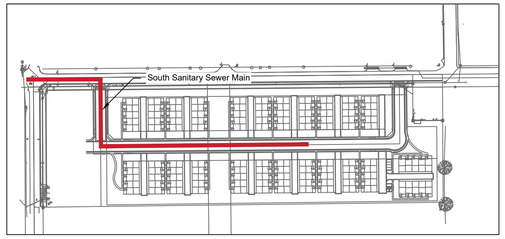
Fort Lupton, CO

Sheet
C8.1



South Sanitary Sewer Main Plan

Scale: 1" = 50'

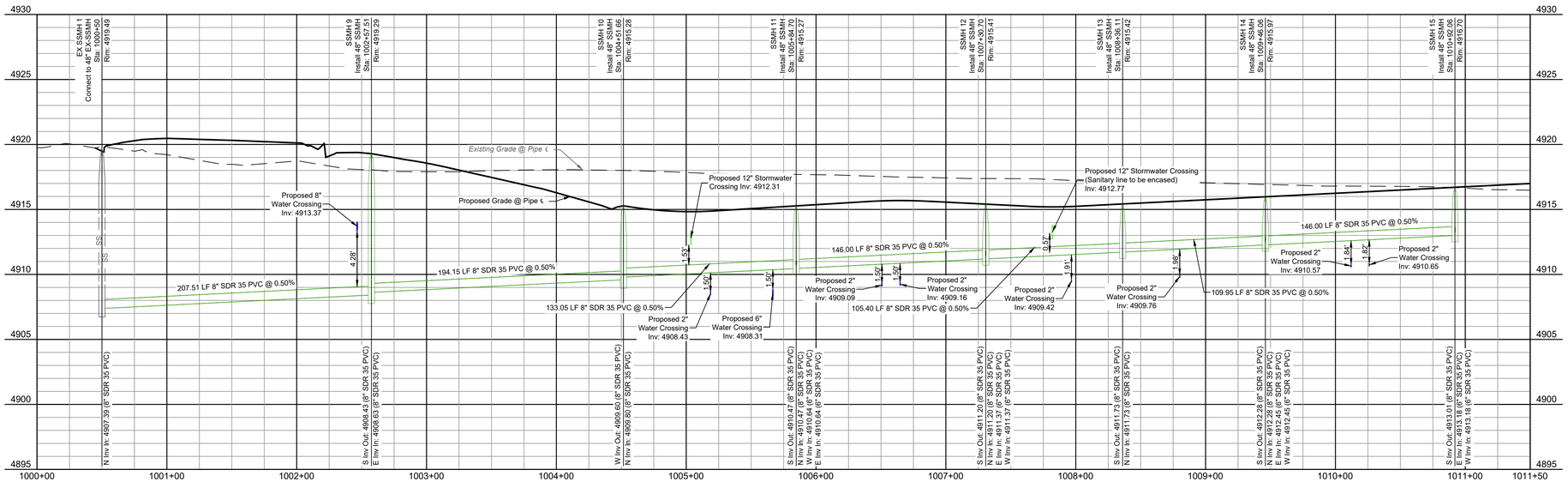


Keymap

NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E



South Sanitary Sewer Main (1000+00 - 1011+50)

H: 1" = 50'

V: 1" = 5'

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L6	1000+00 1002+57.51	N: 1270493.52 E: 3193832.39	N: 1270751.01 E: 3193829.44	N0°39'26"W	257.51
L7	1002+57.51 1004+51.66	N: 1270751.01 E: 3193829.44	N: 1270752.75 E: 3194023.58	N89°29'15"E	194.15
L8	1004+51.66 1011+50	N: 1270752.75 E: 3194023.58	N: 1271451.06 E: 3194017.33	N0°30'45"W	698.34

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Job Number: 21-031
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COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
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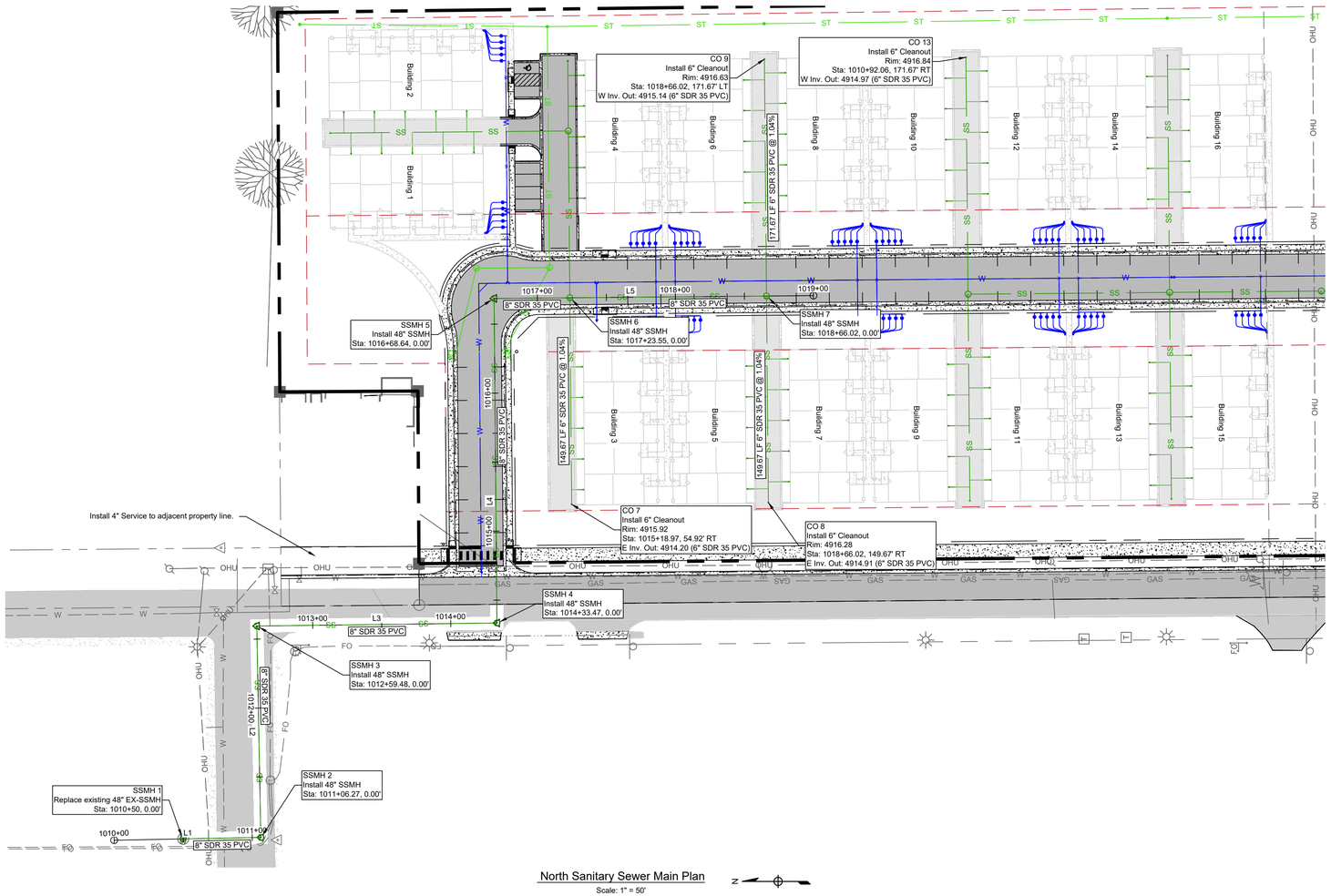
The Flats at Lupton Village
Construction Documents

Sanitary Sewer Plan and Profile

Fort Lupton, CO

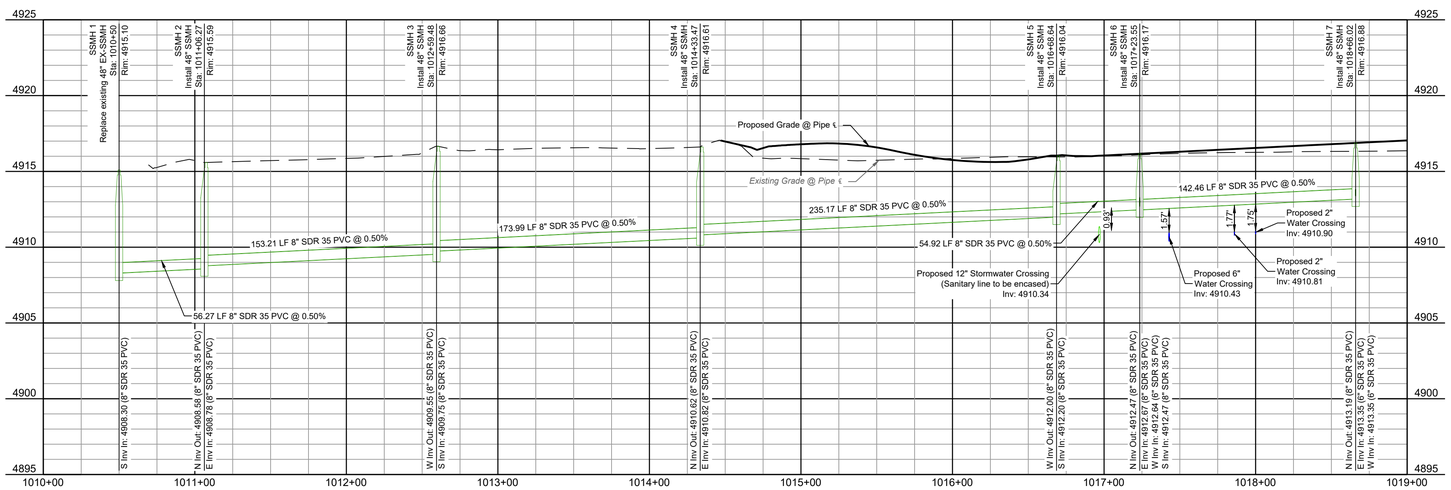
Sheet
C9.1

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North Sanitary Sewer Main Plan

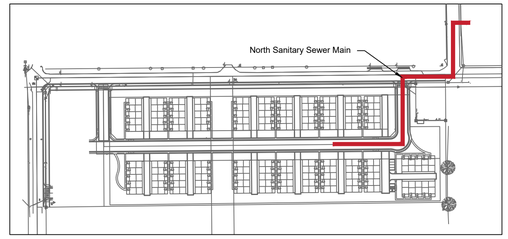
Scale: 1" = 50'



North Sanitary Sewer Main (1010+00 - 1019+00)

H: 1" = 50'

V: 1" = 5'



Keymap

NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	1010+00 1011+06.27	N: 1272011.67 E: 3193622.19	N: 1271905.42 E: 3193624.24	S1°06'07"E	106.27
L2	1011+06.27 1012+59.48	N: 1271905.42 E: 3193624.24	N: 1271908.37 E: 3193777.41	N88°53'53"E	153.21
L3	1012+59.48 1014+33.47	N: 1271908.37 E: 3193777.41	N: 1271734.39 E: 3193779.62	S0°43'35"E	173.99
L4	1014+33.47 1016+68.64	N: 1271734.39 E: 3193779.62	N: 1271736.49 E: 3194014.78	N89°29'15"E	235.17
L5	1016+68.64 1019+00	N: 1271736.49 E: 3194014.78	N: 1271505.14 E: 3194016.85	S0°30'45"E	231.36

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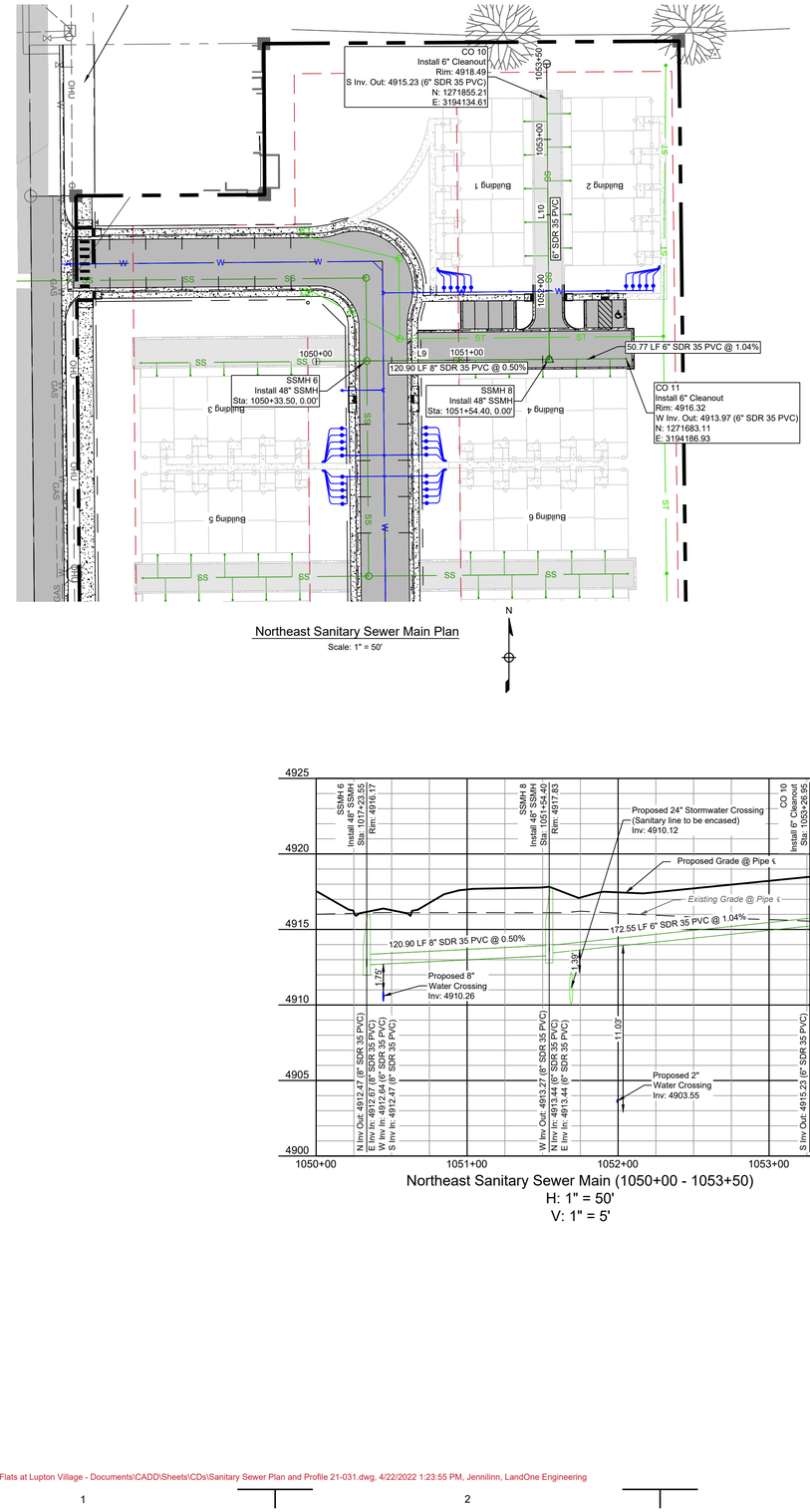
The Flats at Lupton Village
Construction Documents

Sanitary Sewer Plan and Profile

Fort Lupton, CO

Sheet
C9.2

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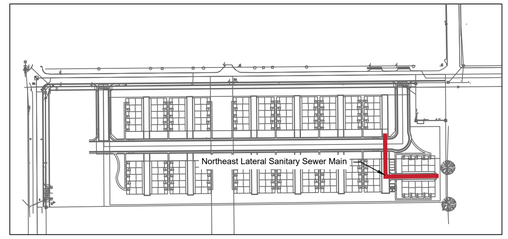
Northeast Sanitary Sewer Main Plan

Scale: 1" = 50'

Northeast Sanitary Sewer Main (1050+00 - 1053+50)

H: 1" = 50'

V: 1" = 5'



Keymap

NTS

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
W	W
NPW	NPW
SS	SS
ST	ST
FO	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	
Open Space	
GAS	GAS
E	E

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L9	1050+00 1051+54.40	N: 1271681.28 E: 3193981.77	N: 1271682.66 E: 3194136.16	N89°29'15"E	154.40
L10	1051+54.40 1053+50	N: 1271682.66 E: 3194136.16	N: 1271878.26 E: 3194134.41	N0°30'45"W	195.61

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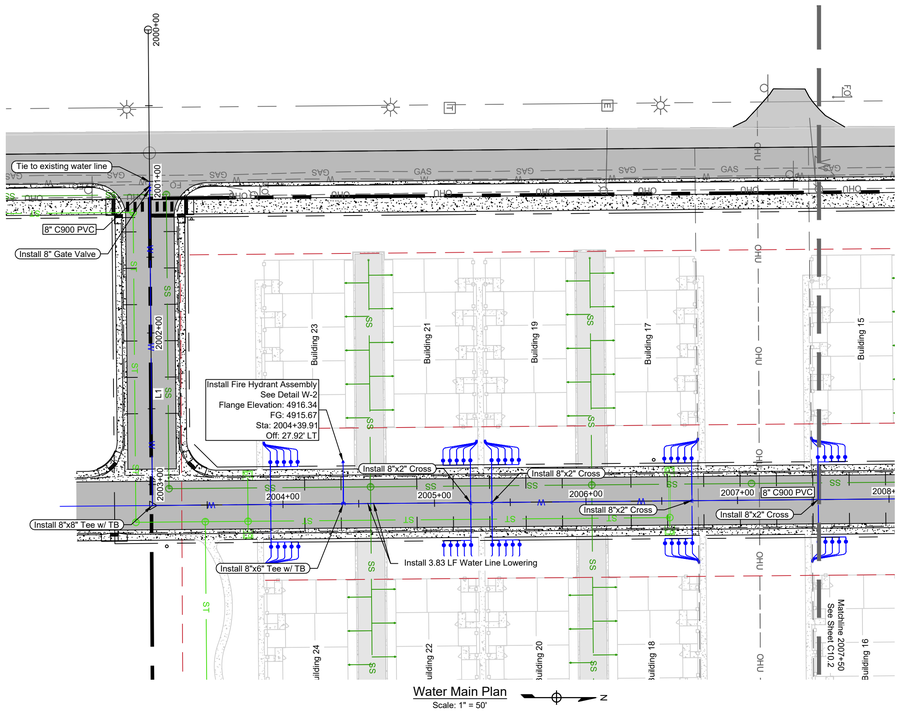
Rev. No.	Date	Revision Description
A.	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents

Sanitary Sewer Plan and Profile

Fort Lupton, CO

Sheet
C9.3



Water Main Plan
Scale: 1" = 50'

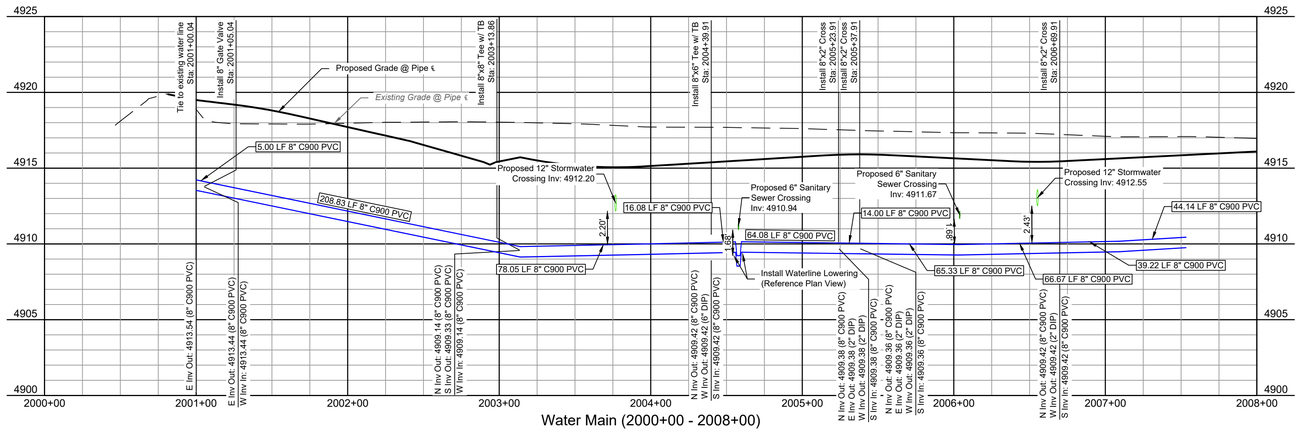
Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	2000+00 2003+13.86	N: 1270739.04 E: 3193720.83	N: 1270741.85 E: 3194034.68	N89°29'15"E	313.86
L4	2013+13.20 2013+22.31	N: 1271741.15 E: 3194025.73	N: 1271747.53 E: 3194019.23	N45°30'45"W	9.11
L5	2013+22.31 2015+53.77	N: 1271747.53 E: 3194019.23	N: 1271745.46 E: 3193787.78	S89°29'15"W	231.46



Keymap
NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E



Water Main (2000+00 - 2008+00)
H: 1" = 50'
V: 1" = 5'

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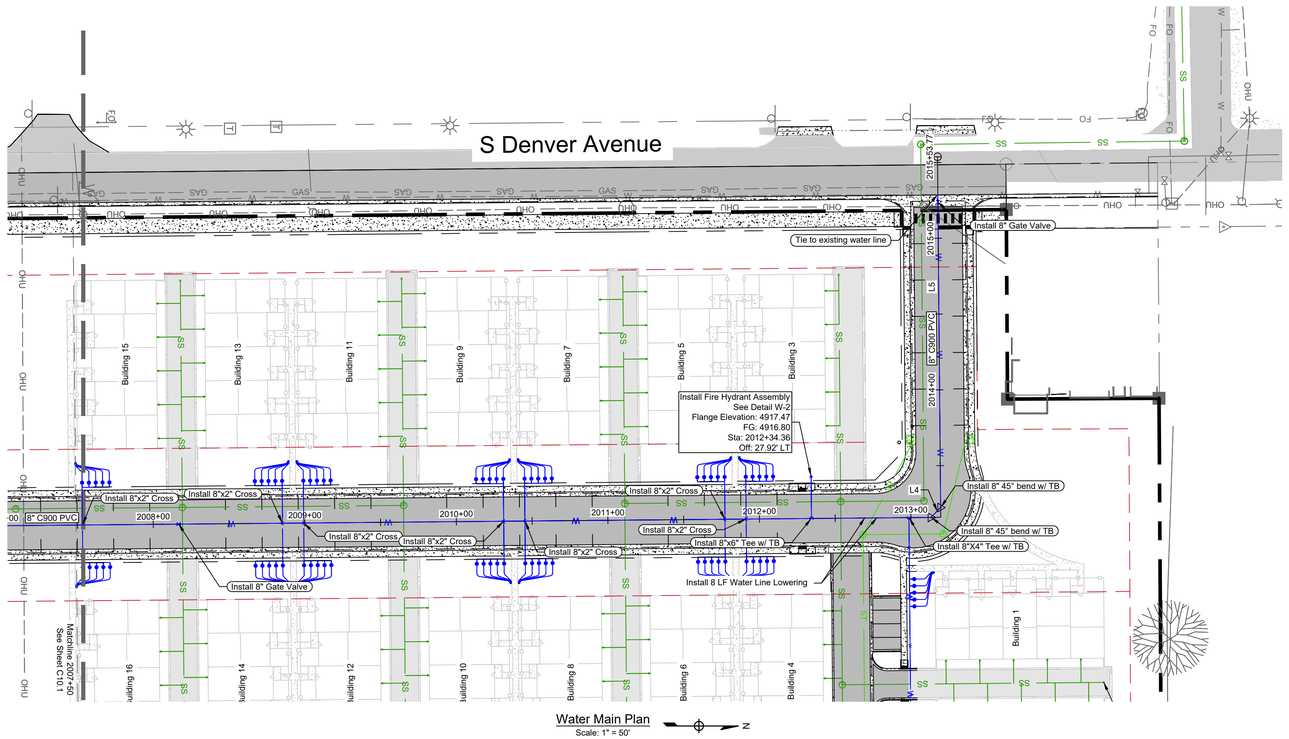
Rev. No.	Date	Revision Description
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The Flats at Lupton Village
Construction Documents

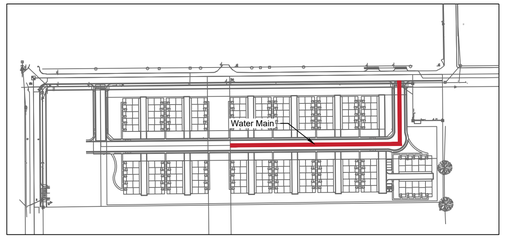
Potable Water Plan and Profile

Fort Lupton, CO

Sheet C10.1



Water Main Plan
Scale: 1" = 50'

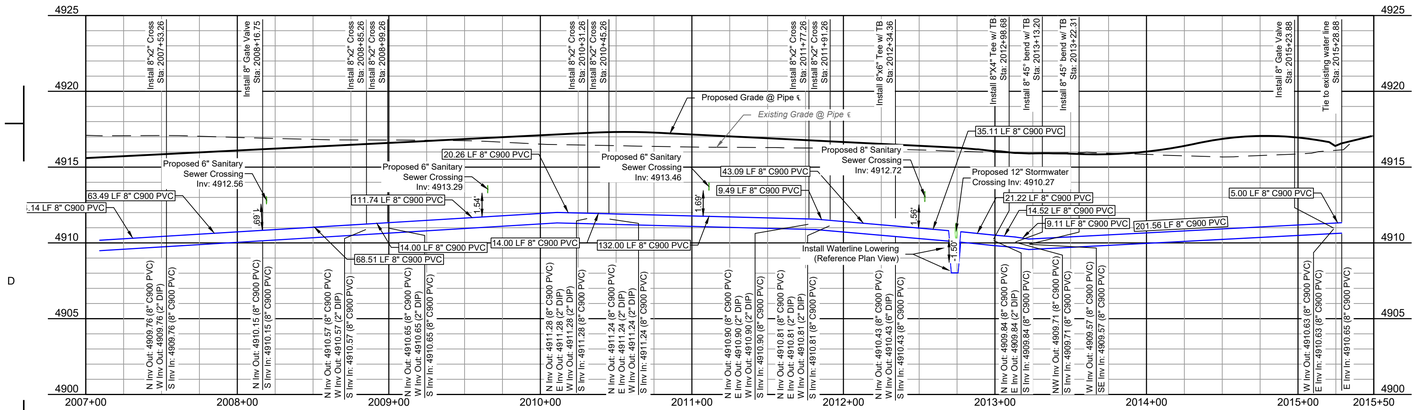


Keymap
NTS

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	2000+00 2003+13.86	N: 1270739.04 E: 3193720.83	N: 1270741.85 E: 3194034.68	N89°29'15"E	313.86
L4	2013+13.20 2013+22.31	N: 1271741.15 E: 3194025.73	N: 1271747.53 E: 3194019.23	N45°30'45"W	9.11
L5	2013+22.31 2015+53.77	N: 1271747.53 E: 3194019.23	N: 1271745.46 E: 3193787.78	S89°29'15"W	231.46

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E



Water Main (2007+00 - 2015+50)
H: 1" = 50'
V: 1" = 5'

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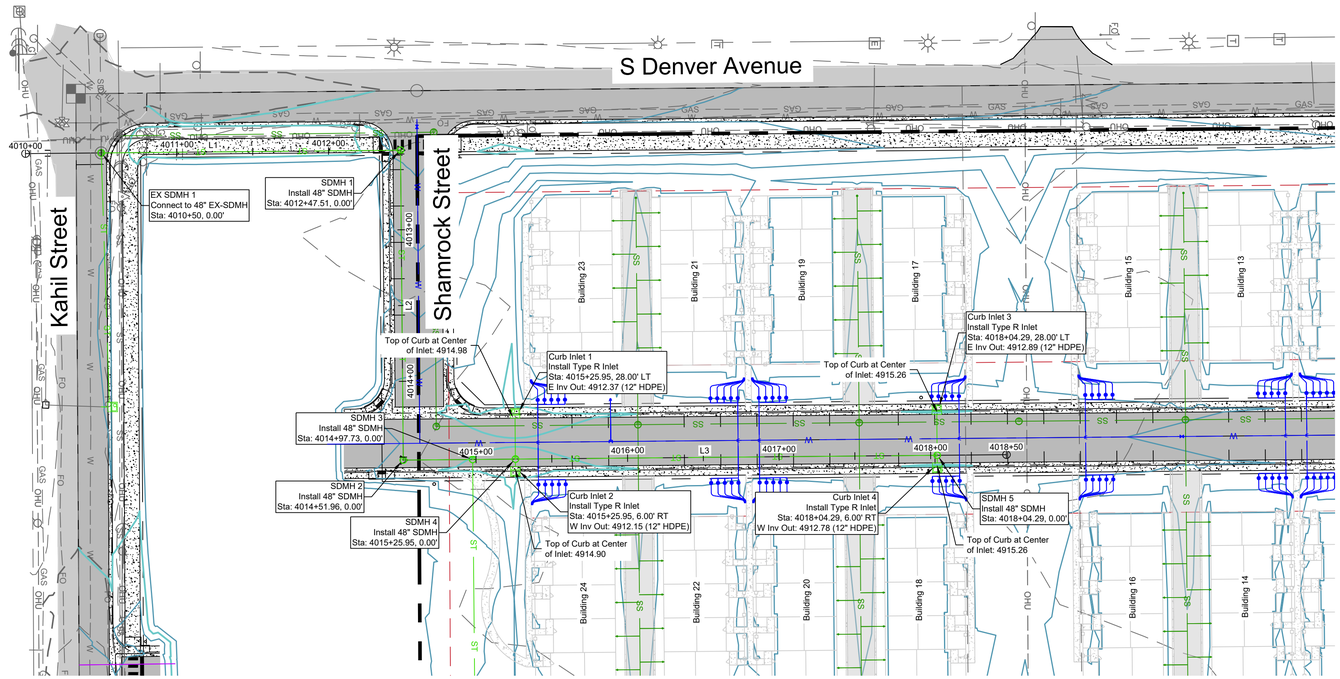
The Flats at Lupton Village
Construction Documents

Potable Water Plan and Profile

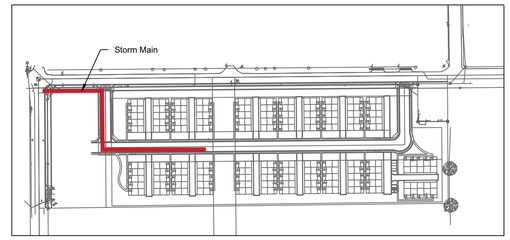
Fort Lupton, CO

Sheet
C10.2

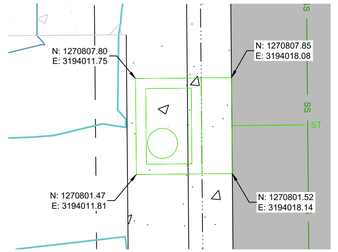
L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Potable Water Plan and Profile 21-031.dwg, 4/22/2022 1:24:41 PM, Jennilinn, LandOne Engineering



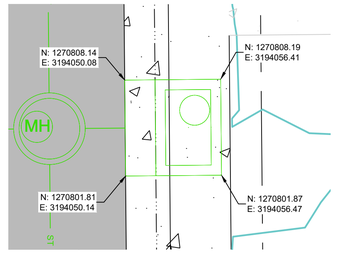
Storm Main Plan
Scale: 1" = 50'



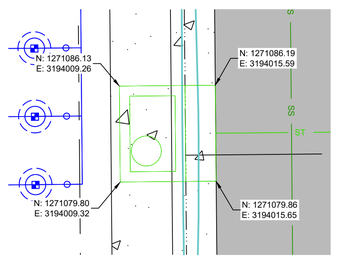
Keymap
NTS



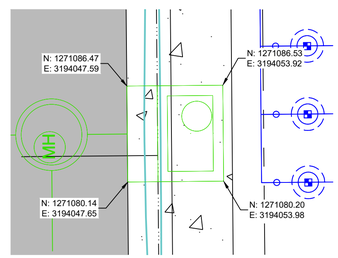
Curb Inlet 1
Scale: 1" = 5'



Curb Inlet 2
Scale: 1" = 5'



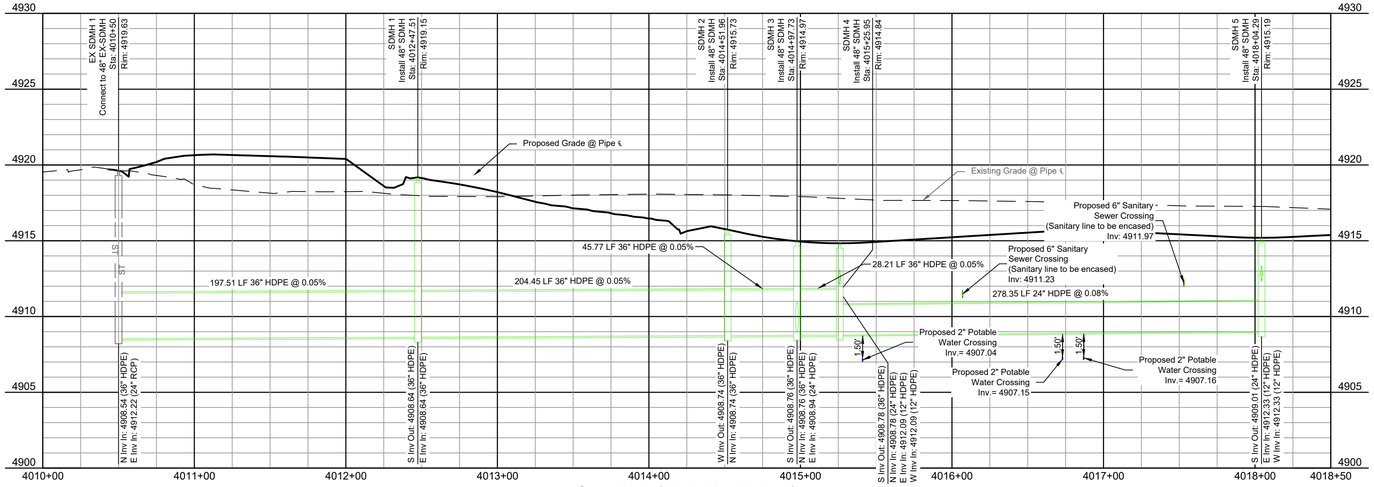
Curb Inlet 3
Scale: 1" = 5'



Curb Inlet 4
Scale: 1" = 5'

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
Potable Water	W
Non-Potable Water	NPW
Sanitary Sewer	SS
Storm	ST
Fiber Optic	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	
Open Space	
Gas	GAS
Electric	E



Storm Main (4010+00 - 4018+50)
H: 1" = 50'
V: 1" = 5'

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	4010+00 4012+47.51	N: 1270481.62 E: 3193843.54	N: 1270729.11 E: 3193841.33	N0°30'45"W	247.51
L2	4012+47.51 4014+51.96	N: 1270729.11 E: 3193841.33	N: 1270730.94 E: 3194045.77	N89°29'15"E	204.45
L3	4014+51.96 4018+50	N: 1270730.94 E: 3194045.77	N: 1271128.97 E: 3194042.21	N0°30'45"W	398.04

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

Job Number: 21-031
Checked By: JG
Date: 04/22/2022

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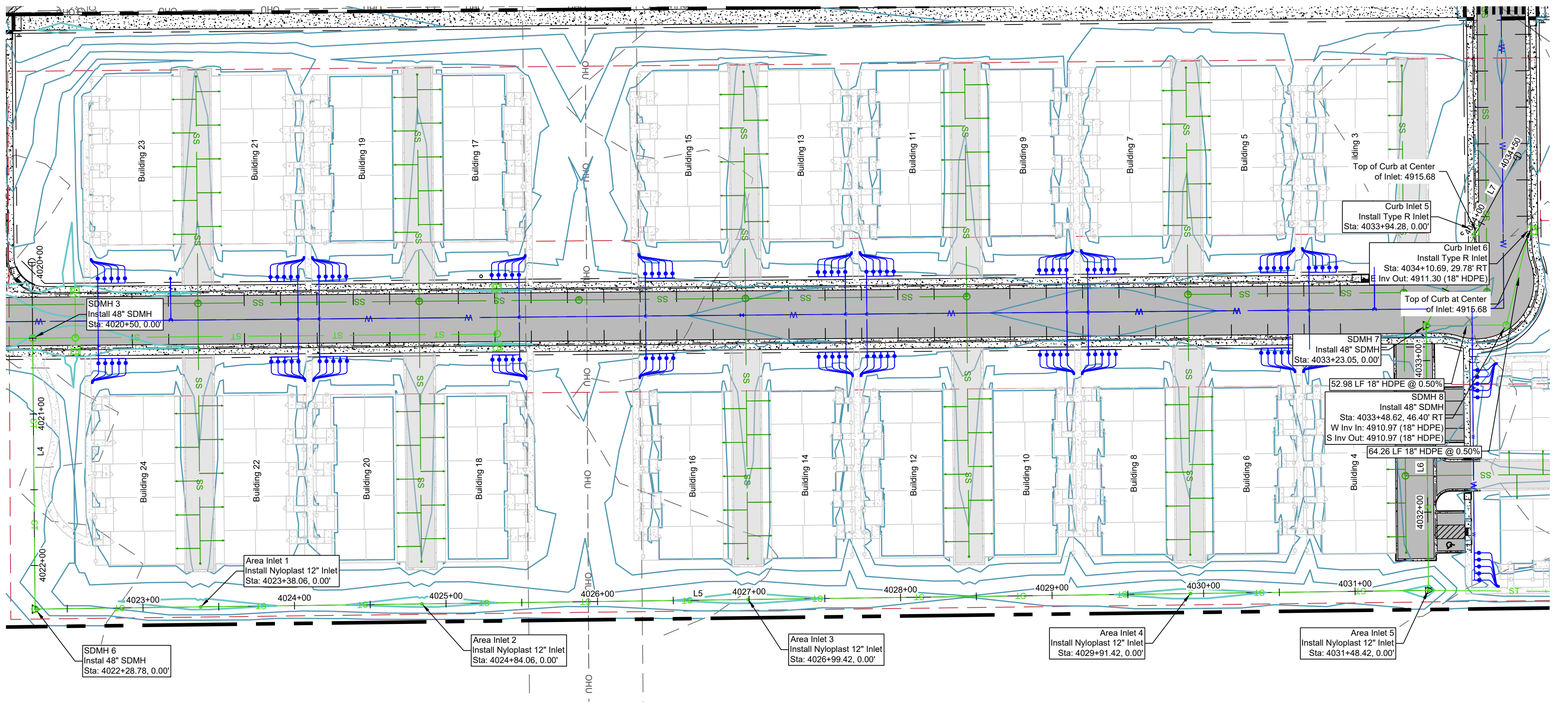
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents
Storm Plan and Profile
Fort Lupton, CO

Sheet
C12.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Storm Plan and Profile 21-031.dwg, 4/22/2022 1:25:32 PM, Jennilinn, LandOne Engineering

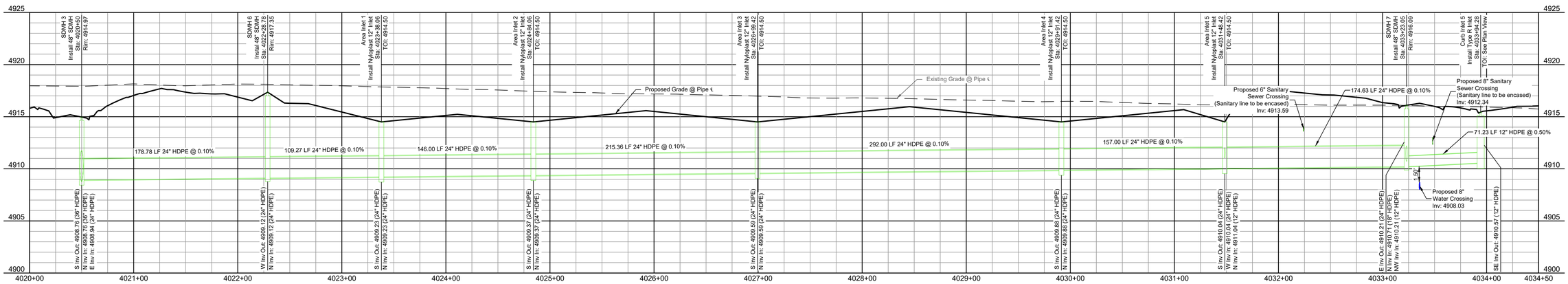


East Storm Line Plan
Scale: 1" = 50'

Keymap
NTS

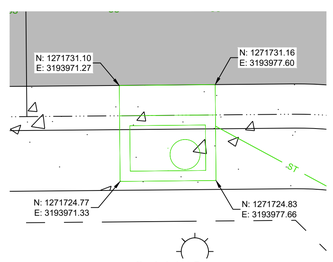
Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

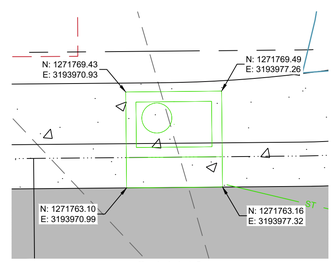


East Storm Line (4020+00 - 4034+50)
H: 1" = 50'
V: 1" = 5'

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L4	4020+00 4022+28.78	N: 1270776.27 E: 3193995.37	N: 1270778.32 E: 3194224.14	N89°29'15"E	228.78
L5	4022+28.78 4031+48.42	N: 1270778.32 E: 3194224.14	N: 1271697.87 E: 3194211.75	N0°46'18"W	919.64
L6	4031+48.42 4033+23.05	N: 1271697.87 E: 3194211.75	N: 1271696.31 E: 3194037.14	S89°29'15"W	174.63
L7	4033+23.05 4034+50	N: 1271696.31 E: 3194037.14	N: 1271756.59 E: 3193925.41	N61°39'12"W	126.95



Curb Inlet 5
Scale: 1" = 5'



Curb Inlet 6
Scale: 1" = 5'

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
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Job Number 21-031
Checked By JG
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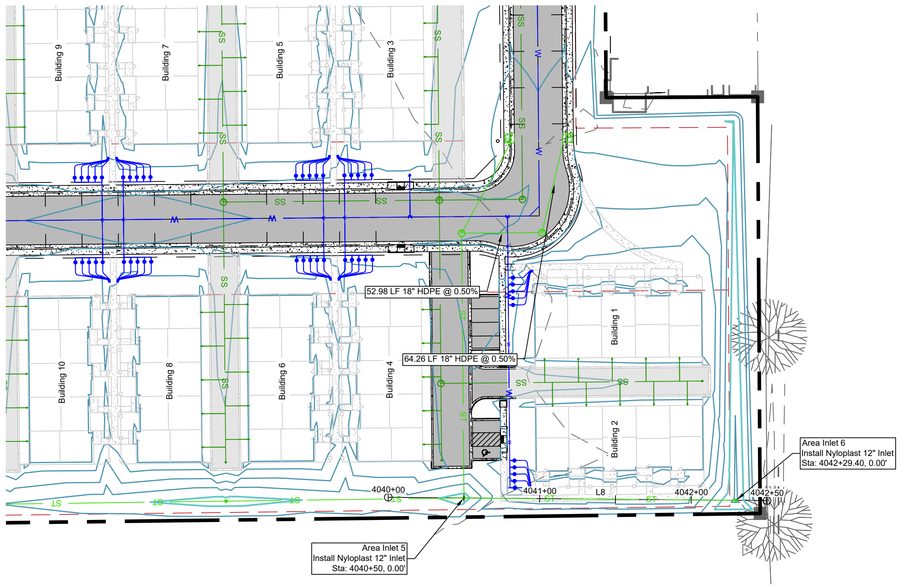
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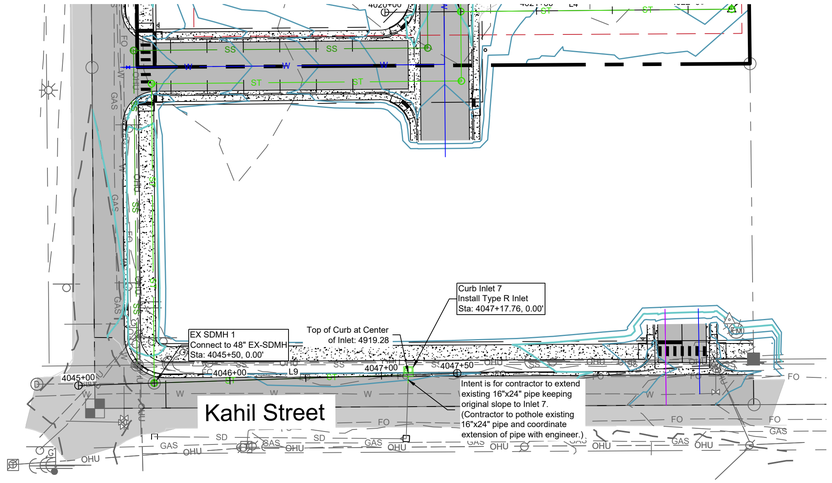
Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents
Storm Plan and Profile
Fort Lupton, CO

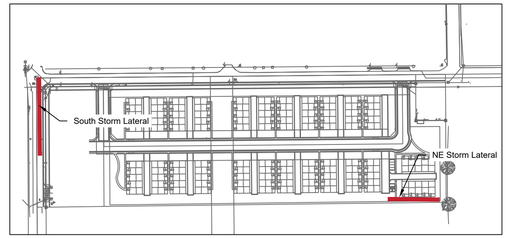
Sheet C12.2



NE Storm Lateral Plan
Scale: 1" = 50'



South Storm Lateral Plan
Scale: 1" = 50'



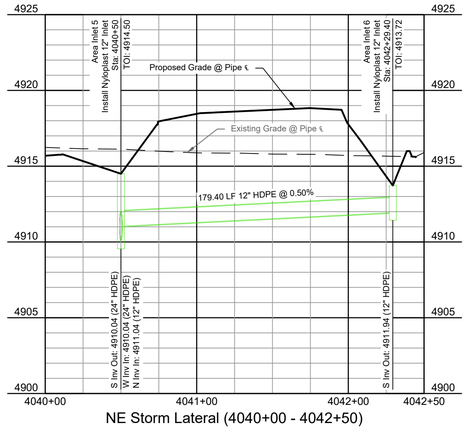
Keymap
NTS

Legend

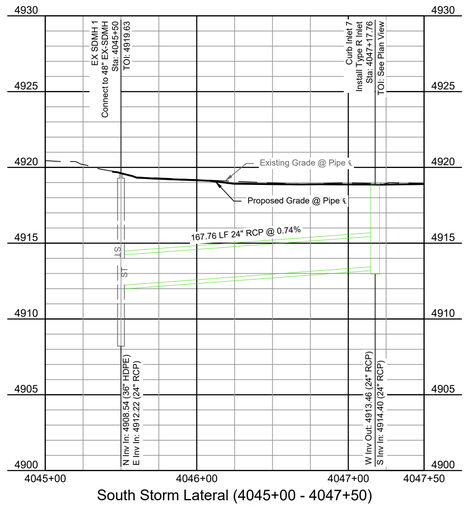
Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L8	4040+00 4042+50	N: 1271647.87 E: 3194211.32	N: 1271897.86 E: 3194213.50	N0°30'02"E	250.00

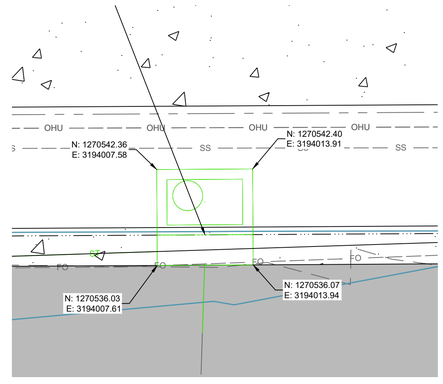
Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L9	4045+00 4047+50	N: 1270530.00 E: 3193793.12	N: 1270538.09 E: 3194042.99	N88°08'39"E	250.00



NE Storm Lateral (4040+00 - 4042+50)
H: 1" = 50'
V: 1" = 5'



South Storm Lateral (4045+00 - 4047+50)
H: 1" = 50'
V: 1" = 5'



Curb Inlet 7
Scale: 1" = 5'

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

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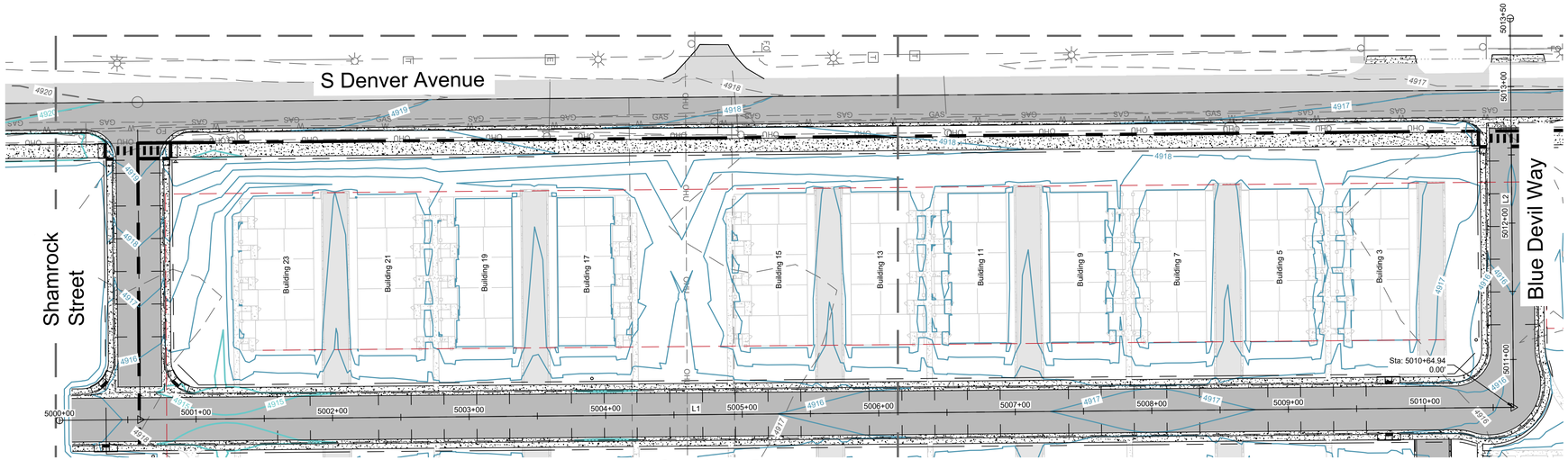
Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents

Storm Plan and Profile

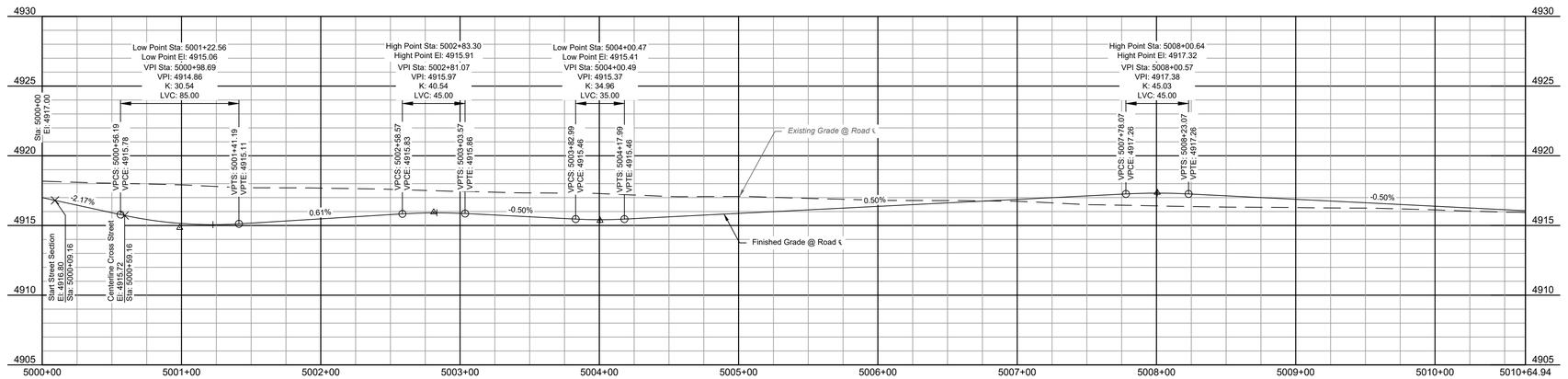
Fort Lupton, CO

Sheet C12.3



Custer Avenue Plan

Scale: 1" = 50'



Custer Avenue (5000+00 - 5010+64.94)

H: 1" = 50'

V: 1" = 5'



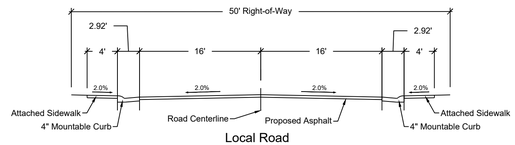
Keymap

NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	5000+59.16 5010+64.94	N: 1270741.85 E: 3194034.68	N: 1271747.59 E: 3194025.68	N0°30'45"W	1005.78
L2	5010+64.94 5013+50	N: 1271747.59 E: 3194025.68	N: 1271745.04 E: 3193740.63	S89°29'15"W	285.06



Local Road

Typical Section

LANDONE engineering
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Greeley, CO 80634

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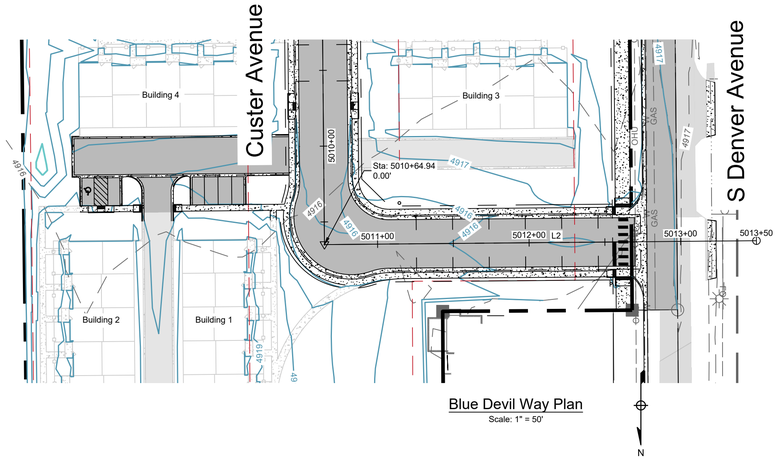
COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

Revision Description | Date | Rev. No.

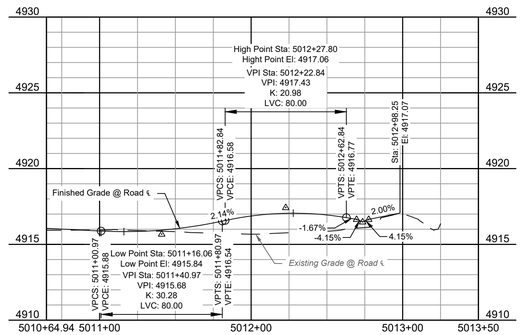
The Flats at Lupton Village
Construction Documents
Eagle Avenue Plan and Profile
Fort Lupton, CO

Sheet C13.1

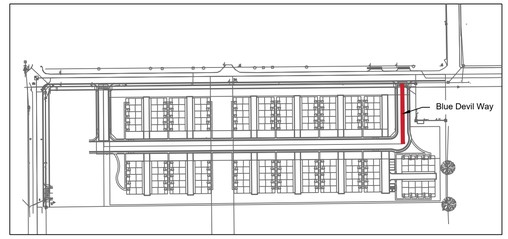
L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Internal Road Plan & Profile 21-031.dwg, 4/22/2022 1:39:37 PM, Jennilinn, LandOne Engineering



Blue Devil Way Plan
Scale: 1" = 50'



Blue Devil Way (5010+64.94 - 5013+50)
H: 1" = 50'
V: 1" = 5'



Keymap
NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	5000+59.16 5010+64.94	N: 1270741.85 E: 3194034.68	N: 1271747.59 E: 3194025.68	N0°30'45"W	1005.78
L2	5010+64.94 5013+50	N: 1271747.59 E: 3194025.68	N: 1271745.04 E: 3193740.63	S89°29'15"W	285.06



Local Road
Typical Section

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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CONSTRUCTION

Job Number 21-031
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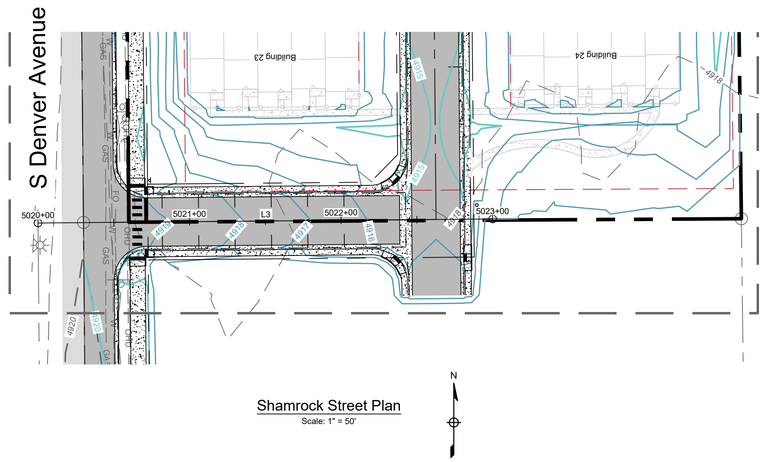
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

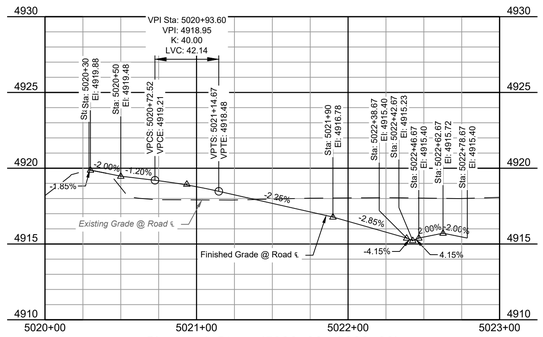
Blue Devil Way Plan and Profile

Fort Lupton, CO

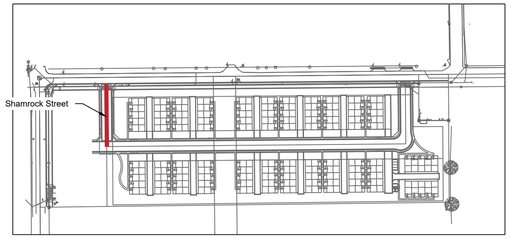
Sheet C13.2



Shamrock Street Plan
Scale: 1" = 50'



Shamrock Street (5020+00 - 5023+00)
H: 1" = 50'
V: 1" = 5'

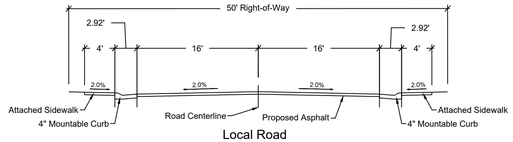


Keymap
NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L3	5020+00 5023+00	N: 1270739.50 E: 3193772.02	N: 1270742.18 E: 3194072.01	N89°29'15"E	300.00



Local Road
Typical Section

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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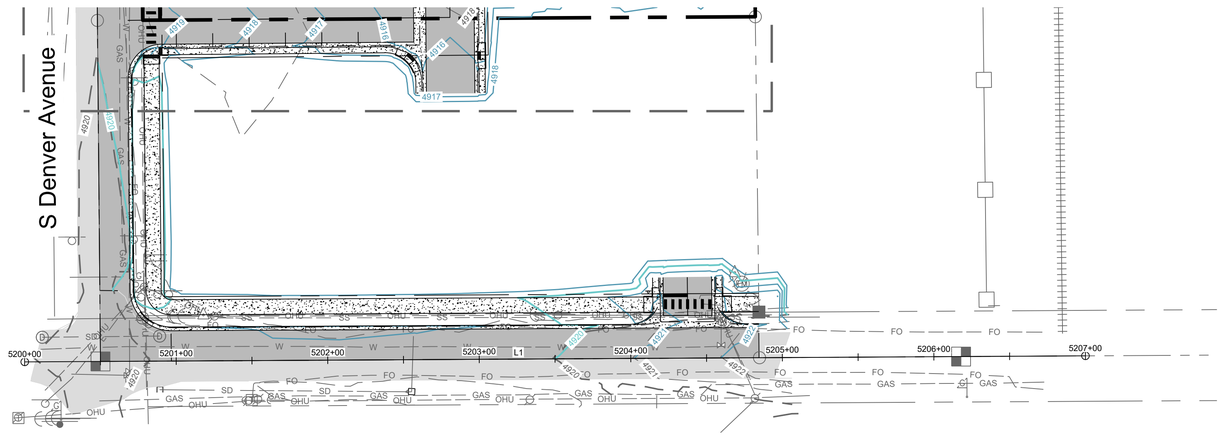
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

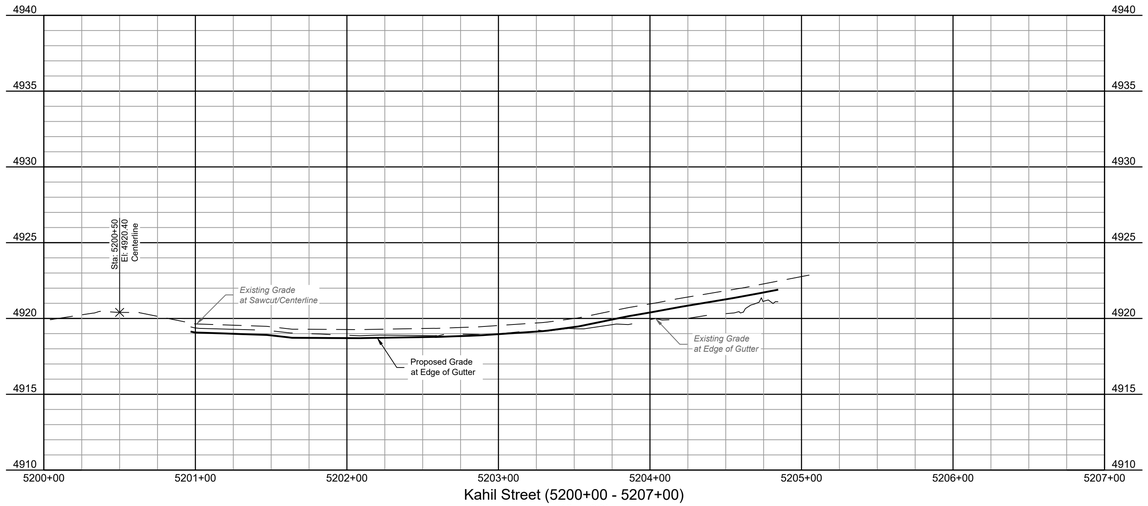
Shamrock Street Plan and Profile

Fort Lupton, CO

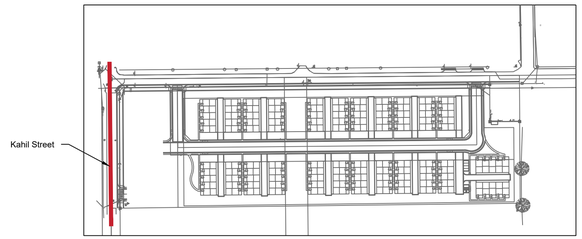
Sheet
C13.3



Kahil Street Plan
Scale: 1" = 50'



Kahil Street (5200+00 - 5207+00)
H: 1" = 20'
V: 1" = 2'

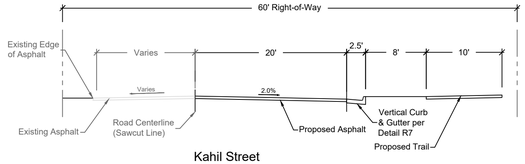


Keymap
NTS

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	5200+00 5207+00	N: 1270514.58 E: 3193754.03	N: 1270518.58 E: 3194454.02	N89°40'24"E	700.00



Kahil Street
Typical Section

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
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Date 04/22/2022

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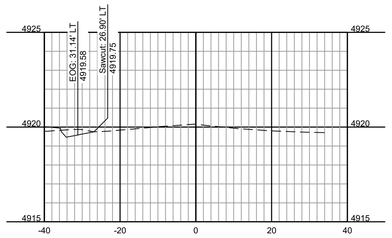
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

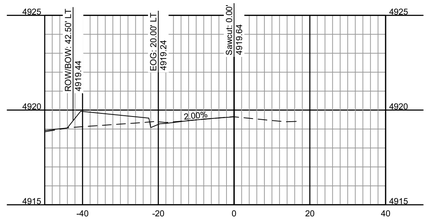
Kahil Street Plan and Profile

Fort Lupton, CO

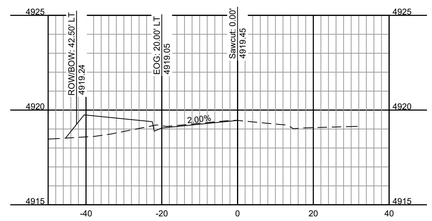
Sheet
C13.4



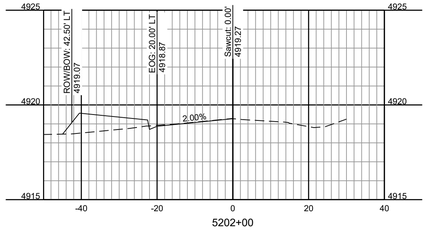
5200+75
H: 1"=20'
V: 1"=4'



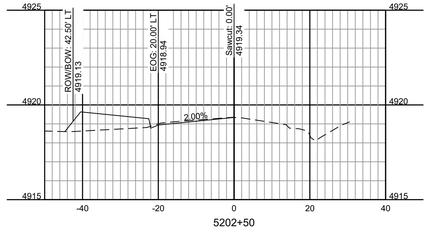
5201+00
H: 1"=20'
V: 1"=4'



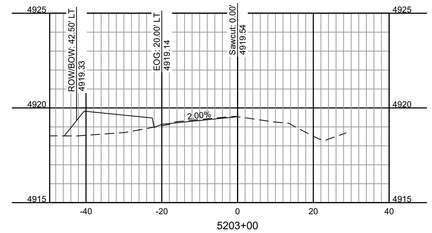
5201+50
H: 1"=20'
V: 1"=4'



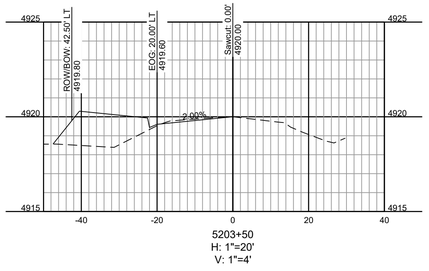
5202+00
H: 1"=20'
V: 1"=4'



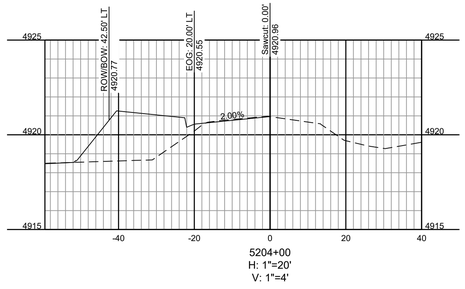
5202+50
H: 1"=20'
V: 1"=4'



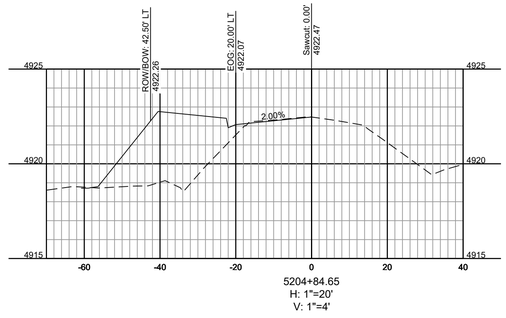
5203+00
H: 1"=20'
V: 1"=4'



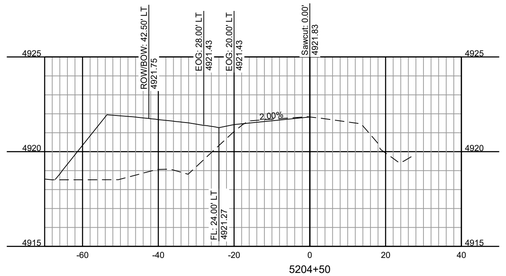
5203+50
H: 1"=20'
V: 1"=4'



5204+00
H: 1"=20'
V: 1"=4'



5204+84.65
H: 1"=20'
V: 1"=4'



5204+50
H: 1"=20'
V: 1"=4'

LandOne Engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

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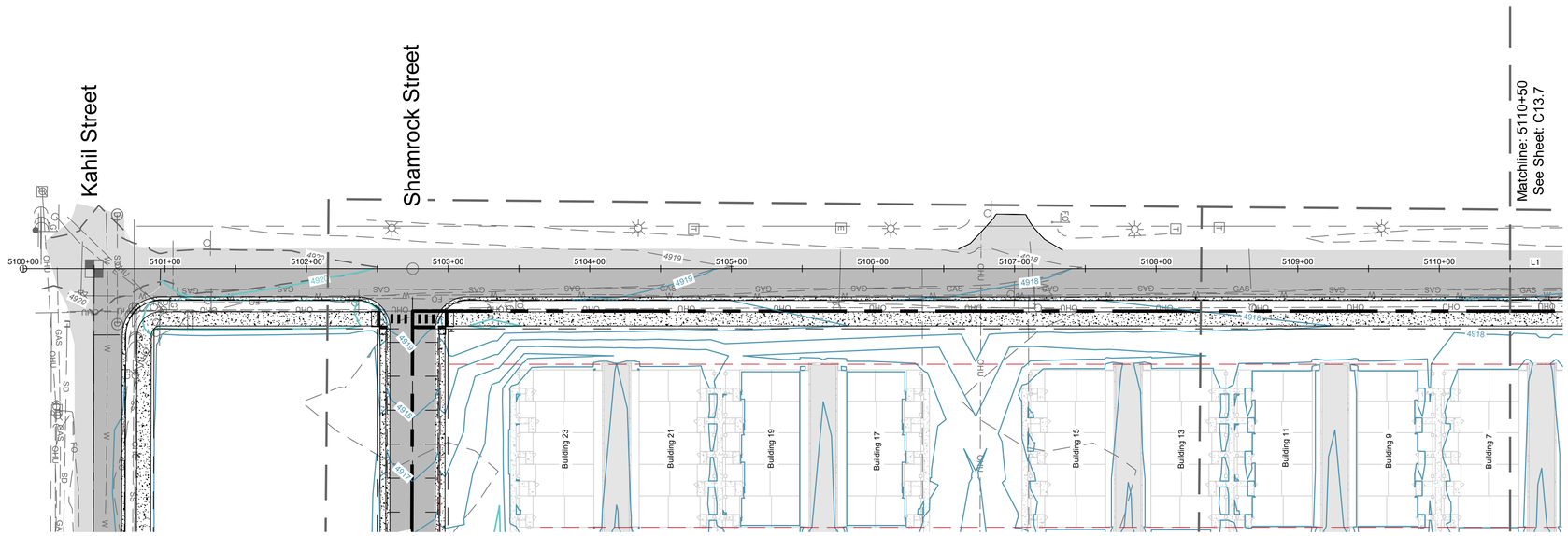
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

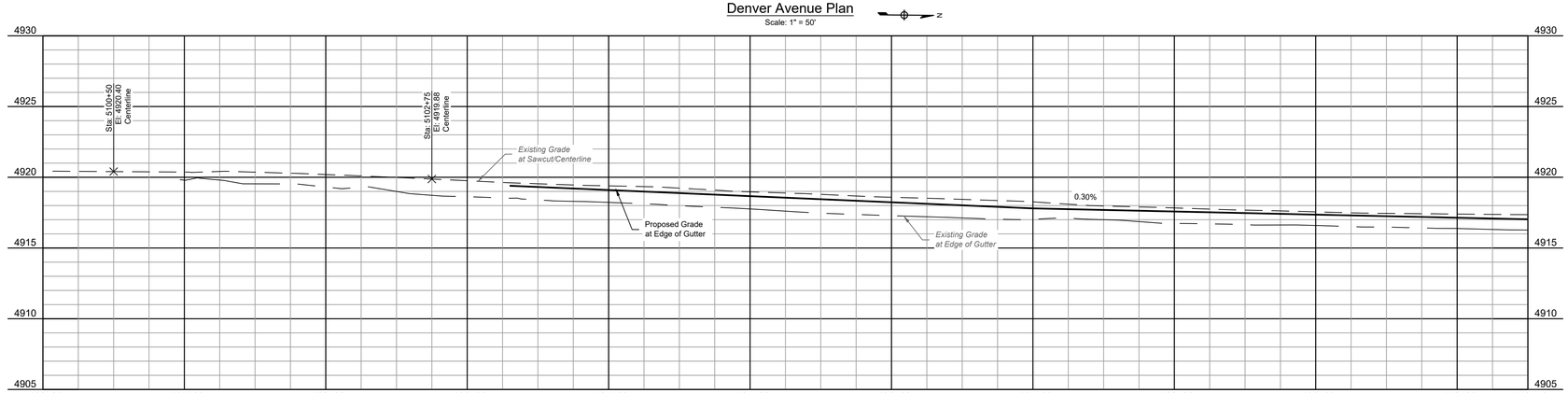
Kahil Street Sections

Fort Lupton, CO

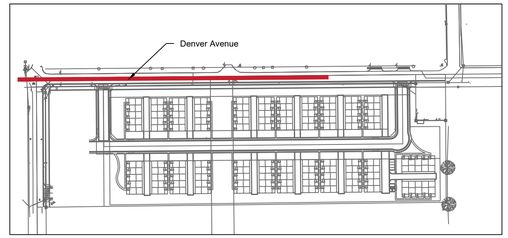
Sheet C13.5



Denver Avenue Plan
Scale: 1" = 50'



Denver Avenue (5100+00 - 5110+50)
H: 1" = 20'
V: 1" = 2'

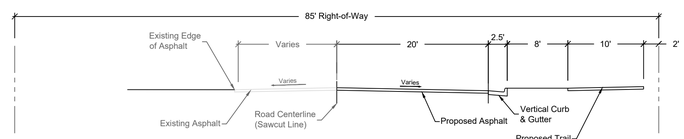


Keymap
NTS

Legend

Existing	Proposed
Project Boundary	
Lot Line	
Right of Way	
Easement	
4800 Major Contour	4800
4801 Minor Contour	4801
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	5100+00 5114+50	N: 1270464.87 E: 3193804.48	N: 1271914.81 E: 3193791.50	N0°30'45"W	1450.00



Denver Avenue
Typical Section

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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CONSTRUCTION

Job Number 21-031
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COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

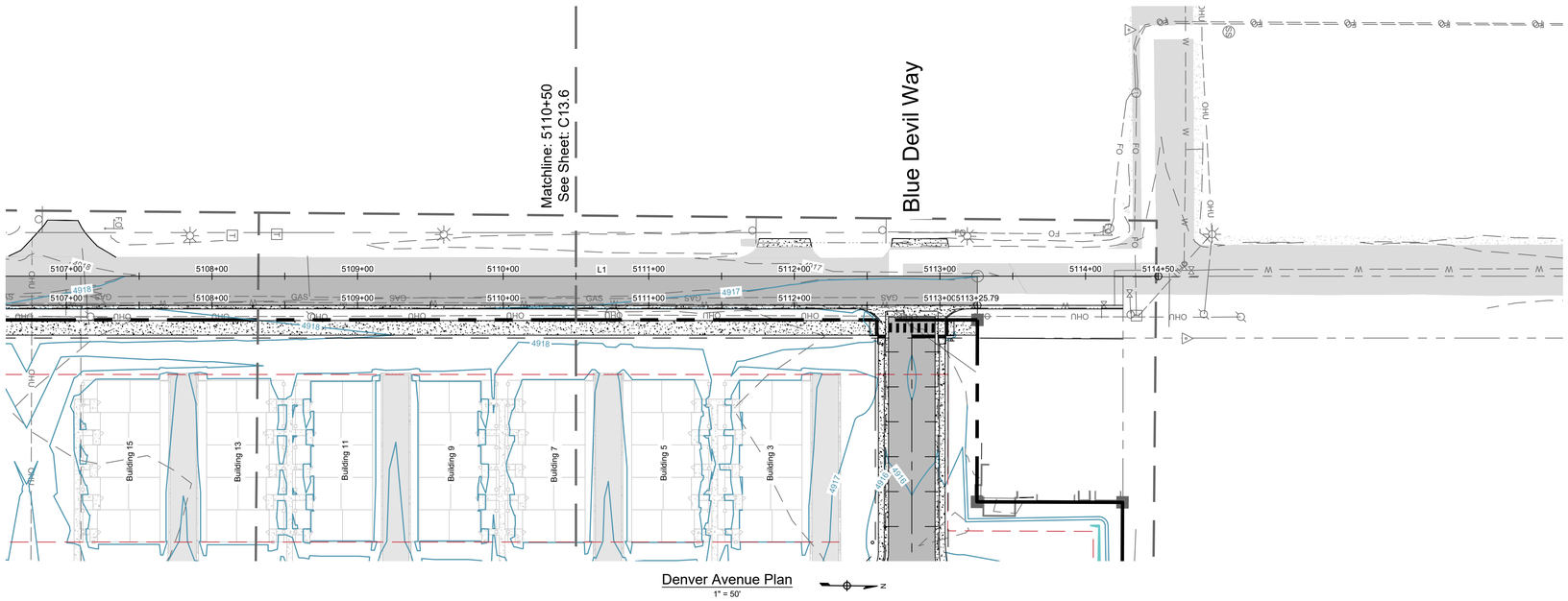
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

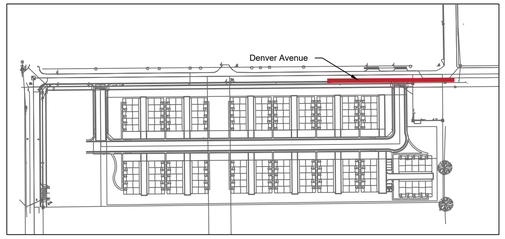
Denver Avenue Plan and Profile

Fort Lupton, CO

Sheet C13.6



Denver Avenue Plan
1" = 50'

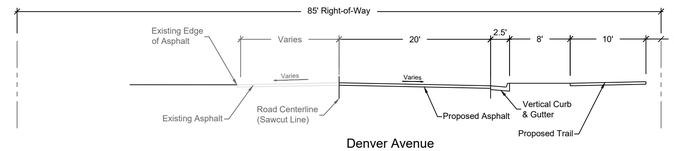


Keymap
NTS

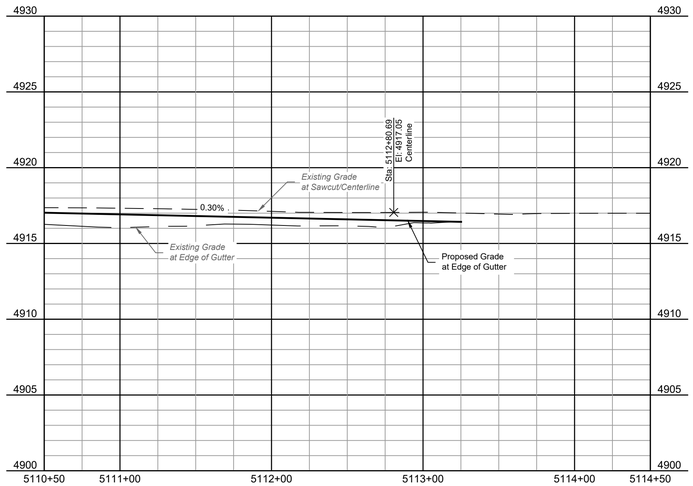
Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
4800	Major Contour	4800
4801	Minor Contour	4801
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	

Alignment Lines					
Line ID #	Station Range	Start Coord.	End Coord.	Direction	Length (ft)
L1	5100+00 5114+50	N: 1270464.87 E: 3193804.48	N: 1271914.81 E: 3193791.50	N0°30'45"W	1450.00



Denver Avenue
Typical Section



Denver Avenue (5110+50 - 5114+50)
H: 1" = 20'
V: 1" = 2'

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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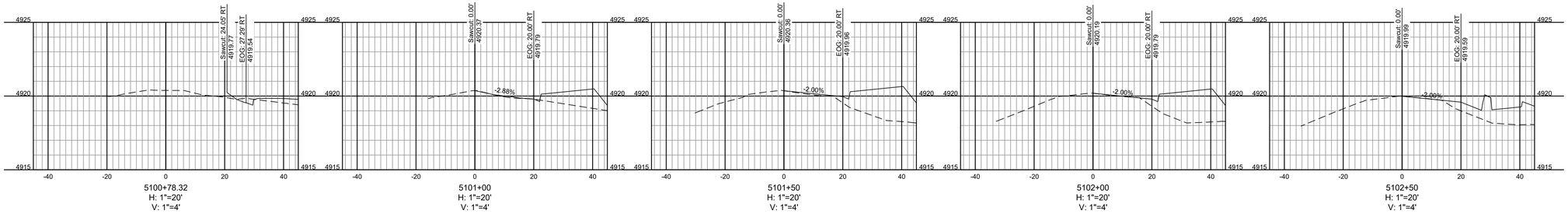
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

Denver Avenue Plan and Profile

Fort Lupton, CO

Sheet C13.7



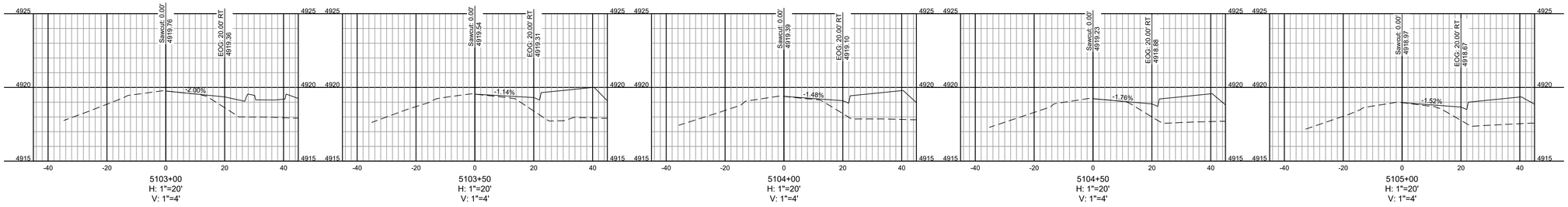
5100+78.32
H: 1"=20'
V: 1"=4'

5101+00
H: 1"=20'
V: 1"=4'

5101+50
H: 1"=20'
V: 1"=4'

5102+00
H: 1"=20'
V: 1"=4'

5102+50
H: 1"=20'
V: 1"=4'



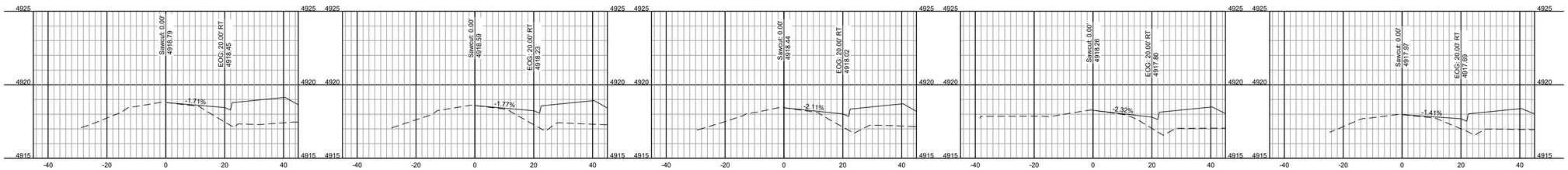
5103+00
H: 1"=20'
V: 1"=4'

5103+50
H: 1"=20'
V: 1"=4'

5104+00
H: 1"=20'
V: 1"=4'

5104+50
H: 1"=20'
V: 1"=4'

5105+00
H: 1"=20'
V: 1"=4'



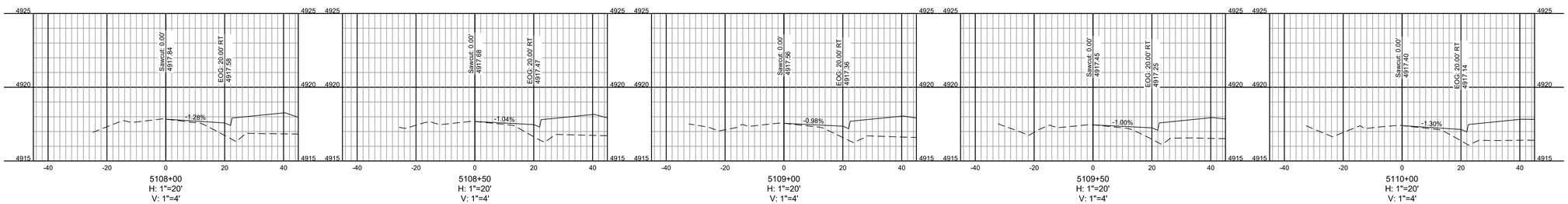
5105+50
H: 1"=20'
V: 1"=4'

5106+00
H: 1"=20'
V: 1"=4'

5106+50
H: 1"=20'
V: 1"=4'

5107+00
H: 1"=20'
V: 1"=4'

5107+50
H: 1"=20'
V: 1"=4'



5108+00
H: 1"=20'
V: 1"=4'

5108+50
H: 1"=20'
V: 1"=4'

5109+00
H: 1"=20'
V: 1"=4'

5109+50
H: 1"=20'
V: 1"=4'

5110+00
H: 1"=20'
V: 1"=4'

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Denver Plan & Profile 21-031.dwg, 4/22/2022 1:41:10 PM, Jennilinn, LandOne Engineering

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR
CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

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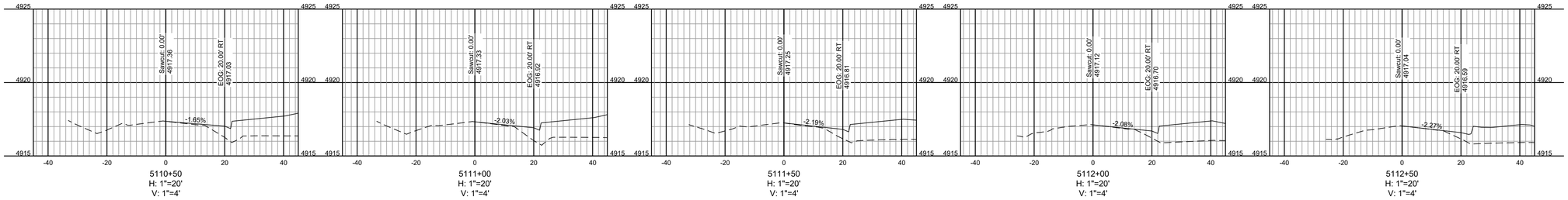
Revision Description | Date | Rev. No.

The Flats at Lupton Village
Construction Documents

Denver Avenue Sections

Fort Lupton, CO

Sheet
C13.8



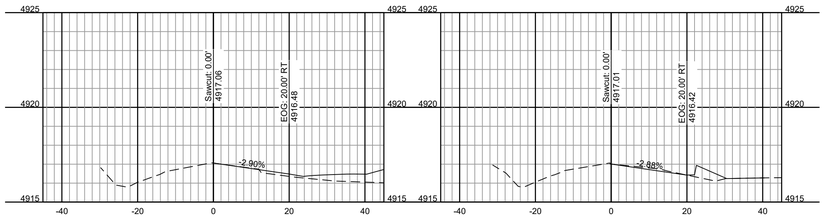
5110+50
H: 1"=20'
V: 1"=4'

5111+00
H: 1"=20'
V: 1"=4'

5111+50
H: 1"=20'
V: 1"=4'

5112+00
H: 1"=20'
V: 1"=4'

5112+50
H: 1"=20'
V: 1"=4'



5113+00
H: 1"=20'
V: 1"=4'

5113+25.78
H: 1"=20'
V: 1"=4'

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Greeley, CO 80634

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21-031
Checked By
JG
Date
04/22/2022

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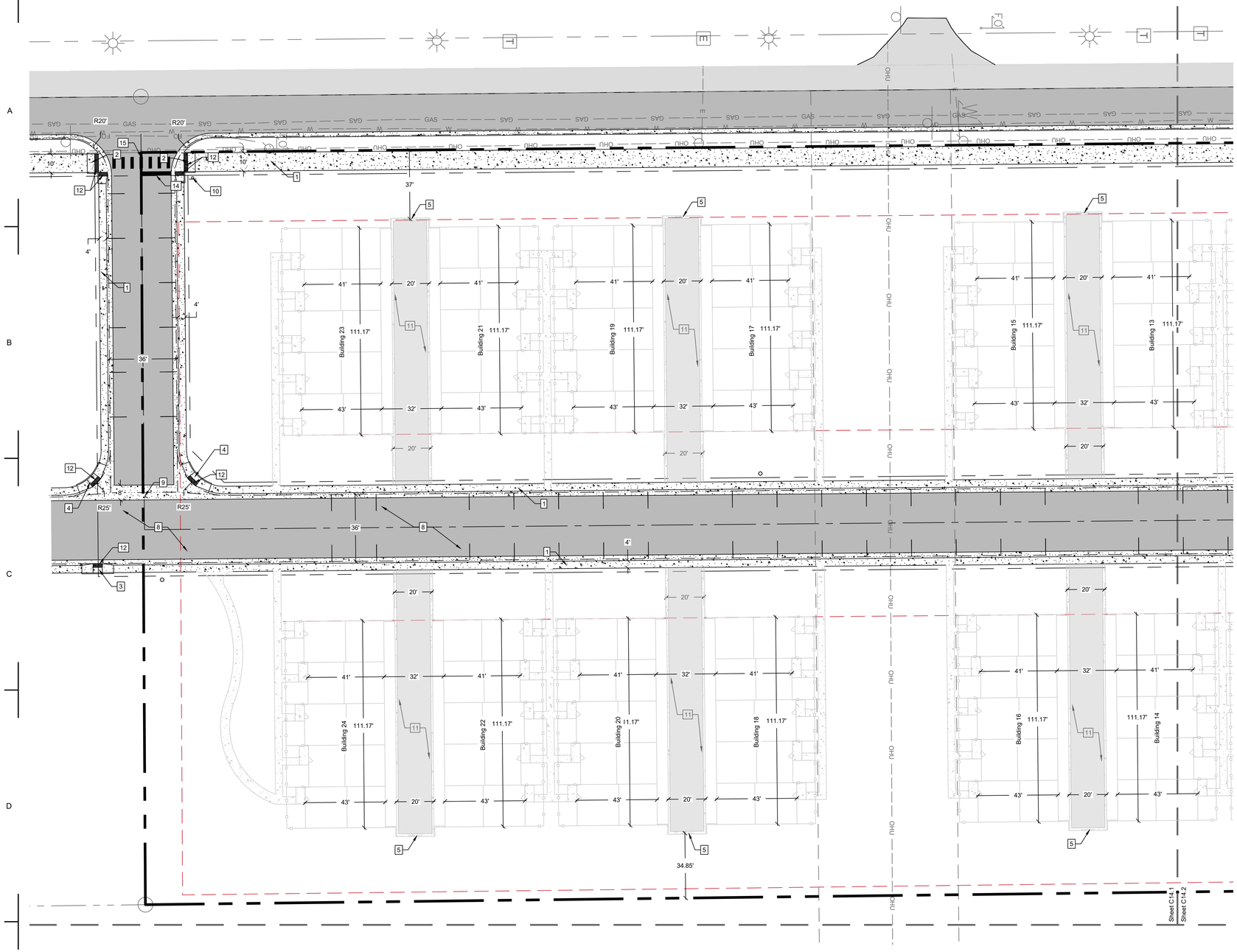
Rev. No. | Date | Revision Description

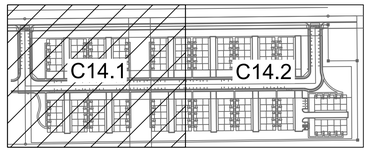
The Flats at Lupton Village
Construction Documents

Denver Avenue Sections

Fort Lupton, CO

Sheet
C13.9





Keymap
NTS

N

30 60
Scale: 1" = 30'

Legend

Existing	Proposed
Project Boundary	
Right of Way	
Easement	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

Keynotes

1. Install sidewalk. Depth = 4". See plan for width. See Detail R7.
2. Install handicap ramp. See Handicap Ramp Detail L1-13
3. Install handicap ramp. See Lateral Handicap Ramp Detail L1-12
4. Install handicap ramp. See Sidewalk Ramp with Cross pan R11
5. Install 1' outflow curb and gutter. See Vertical Face Curb and Gutter Detail L1-5. See Contraction & Expansion Joint Detail L1-34.
6. Install 1' inflow curb and gutter. See Vertical Face Curb and Gutter Detail L1-5. See Contraction & Expansion Joint Detail L1-34.
7. Install Asphalt paving, Type = Automobile Parking per Geotechnical Report.
8. Install Asphalt paving, Type = Roadways per Geotechnical Report.
9. Install concrete pan. See Concrete Pan Detail L1-4
10. Install Stop sign. See Sign Post Detail L1-44.
11. Install Concrete Driveway
12. Install truncated domes/detectable warning devices compliant to Fort Lupton Standards.
13. Install thickened edge sidewalk. See Thickened Edge Sidewalk Detail L1-1. See Contraction & Expansion Joint Detail L1-34.
14. Install Stop Bar per MUTCD Standards.
15. Install Crosswalk Striping per MUTCD Standards.

Paving Plan Notes

1. Location of outflow gutter on this plan is for informational purposes only. Contractor shall place inflow and outflow curb & gutter in a manner consistent with the finished grade and to ensure positive drainage is maintained on the site.
2. Contractor shall ensure that transitions between Curb & Gutter Types, Inflow and Outflow gutter are smooth and aesthetically pleasing. Contractor to contact engineer with any questions or discrepancies.

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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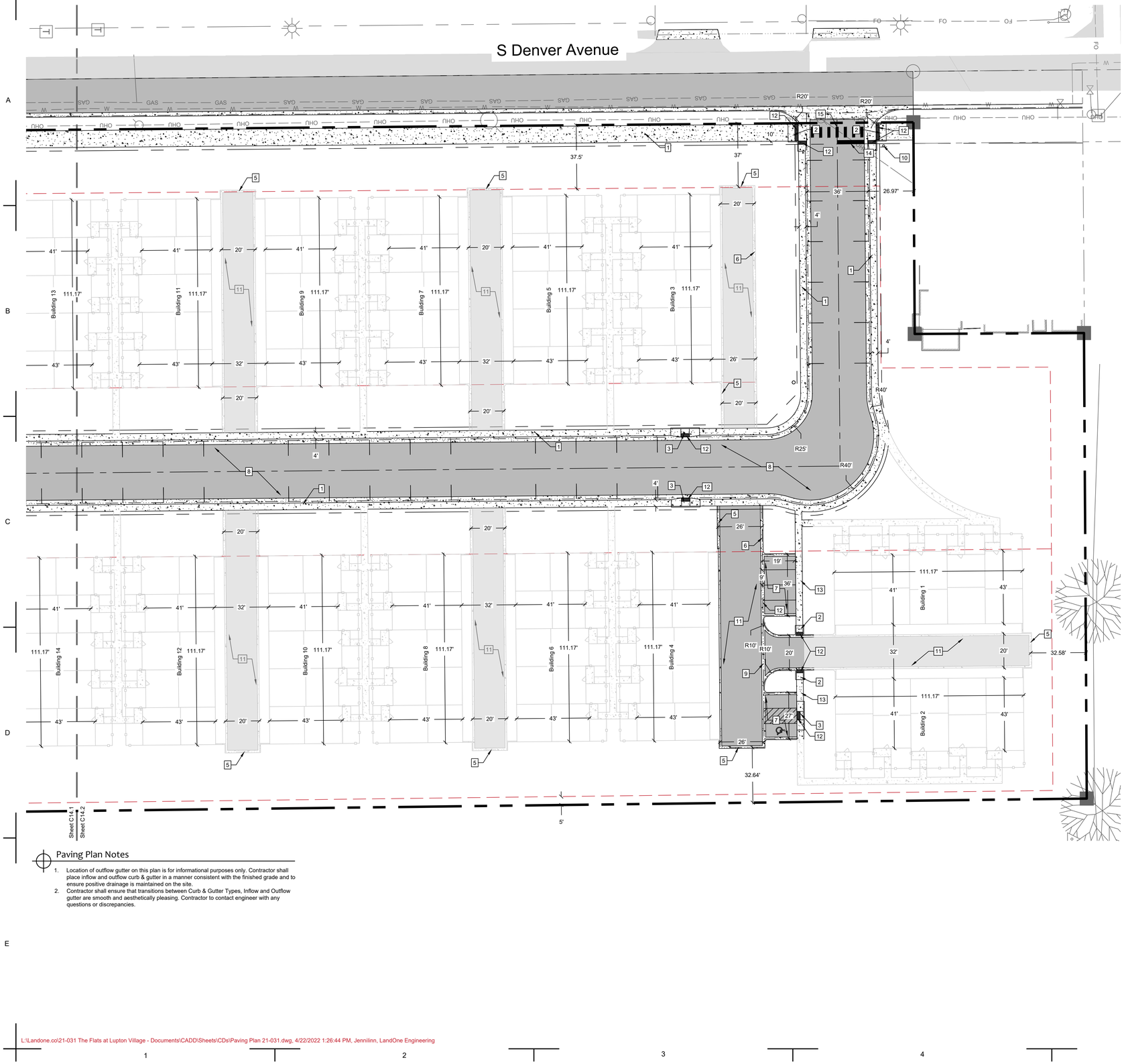
Rev. No.	Date	Revision Description
A.	04/22/2022	1st CD Submittal to City

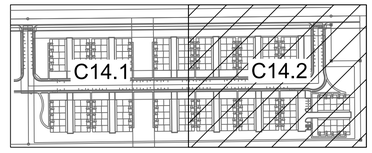
The Flats at Lupton Village
Construction Documents

Paving Plan

Fort Lupton, CO

Sheet C14.1





Keymap
NTS

N

30 60
Scale: 1" = 30'

Legend

Existing	Proposed
	Project Boundary
	Right of Way
	Easement
	Flowline
	Swale Flowline
	Curb and Gutter
	Fence
	Pavement
	Concrete

Keynotes

1. Install sidewalk. Depth = 4". See plan for width. See Detail R7.
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3. Install handicap ramp. See Lateral Handicap Ramp Detail L1-12
4. Install handicap ramp. See Sidewalk Ramp with Cross pan R11
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7. Install Asphalt paving, Type = Automobile Parking per Geotechnical Report.
8. Install Asphalt paving, Type = Roadways per Geotechnical Report.
9. Install concrete pan. See Concrete Pan Detail L1-4
10. Install Stop sign. See Sign Post Detail L1-44.
11. Install Concrete Driveway
12. Install truncated domes/detectable warning devices compliant to Fort Lupton Standards.
13. Install thickened edge sidewalk. See Thickened Edge Sidewalk Detail L1-1. See Contraction & Expansion Joint Detail L1-34.
14. Install Stop Bar per MUTCD Standards.
15. Install Crosswalk Striping per MUTCD Standards.

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Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

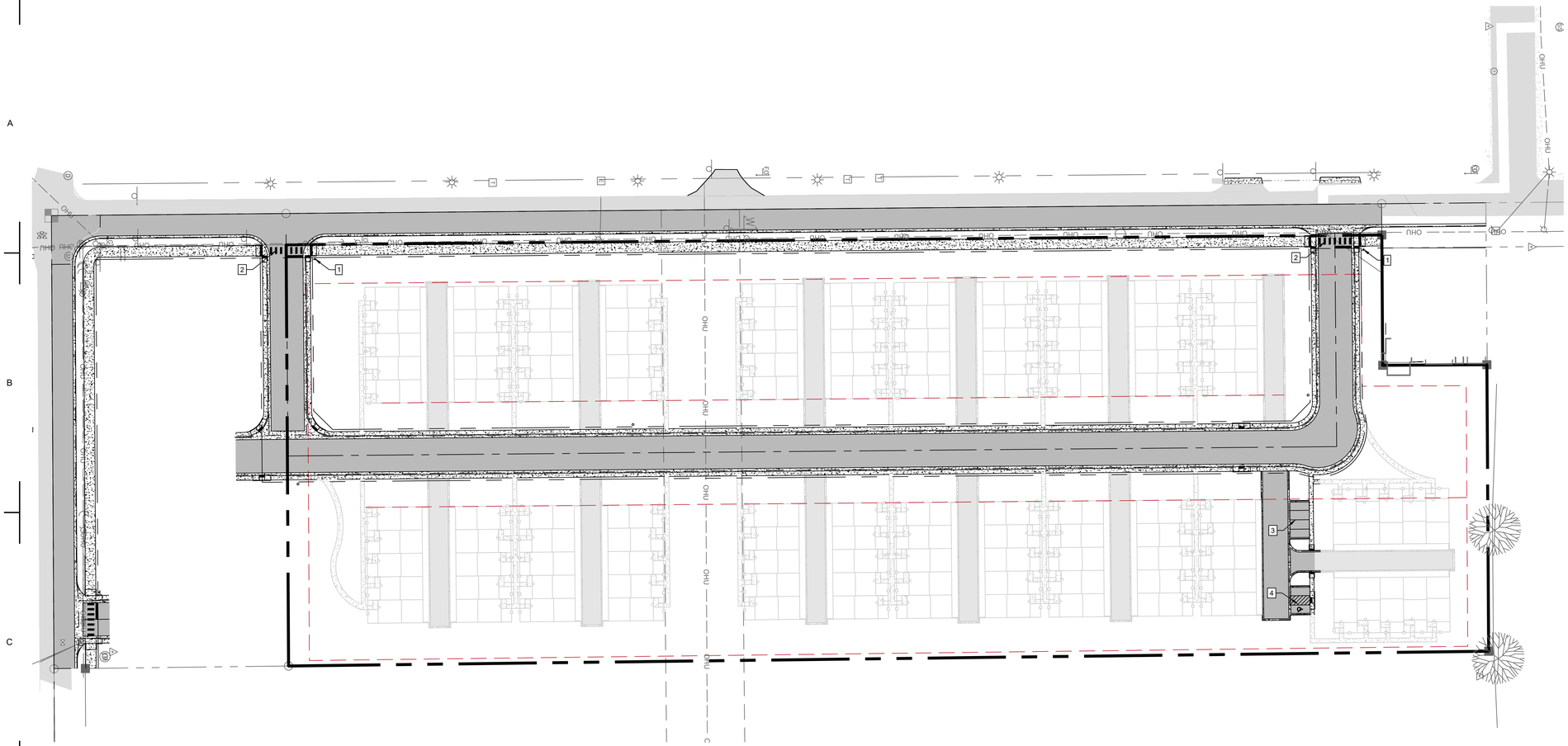
The Flats at Lupton Village
Construction Documents

Paving Plan

Fort Lupton, CO

Sheet C14.2

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Paving Plan 21-031.dwg, 4/22/2022 1:26:44 PM, JenniLinn, LandOne Engineering



N

Scale: 1" = 60'
60
120

Legend

Existing		Proposed
	Project Boundary	
	Right of Way	
	Easement	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Number of Parking Spaces	#

Keynotes

1. Install Stop sign. See Sign Post Detail L1-44.
2. Install crosswalk striping per MUTCD Standard.
3. Install parking stall striping per MUTCD Standard.
4. Install ADA parking stall striping per MUTCD Standard.

LANDONE engineering
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Greeley, CO 80634

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COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

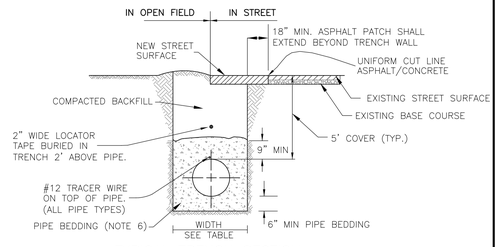
Rev. No.	Date	Revision Description

The Flats at Lupton Village
Construction Documents

Signage and Striping Plan

Fort Lupton, CO

Sheet C14.3



TYPICAL TRENCH SECTION

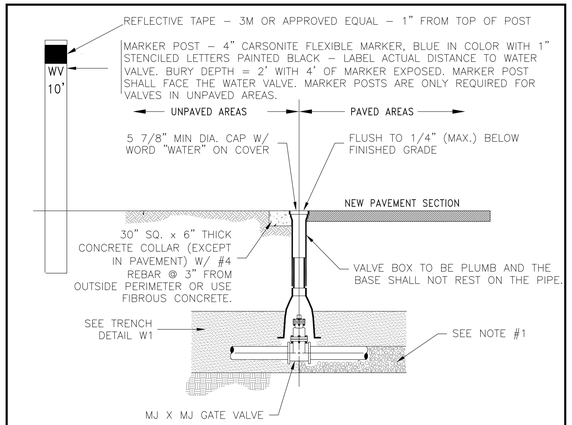
TRENCH WIDTH

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. TRENCHES 5 FT DEEP OR GREATER REQUIRE A "PROTECTIVE SYSTEM" AS DEFINED BY OSHA. TRENCHES 20 FT DEEP OR GREATER REQUIRE THAT THE PROTECTIVE SYSTEM BE DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.
2. OSHA'S STANDARDS REQUIRE THAT TRENCHES BE INSPECTED DAILY AND AS CONDITIONS CHANGE BY A "COMPETENT PERSON" (AS DEFINED BY OSHA) PRIOR TO WORKER ENTRY TO ENSURE ELIMINATION OF EXCAVATION HAZARDS. FOR ADDITIONAL INFORMATION REGARDING OSHA REQUIREMENTS CALL 1-800-321-OSHA.
3. MINIMUM COVER OVER PIPE TO BE BELOW OFFICIAL STREET GRADE.
4. FOR PIPE BEDDING REQUIREMENTS REFER TO CHAPTER 9 OF THE STANDARDS AND SPECIFICATIONS.
5. PIPE BEDDING SHALL BE PLACED AGAINST UNDISTURBED SOIL IN THE TRENCH BOTTOM, HOWEVER, WHERE ADVERSE SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, SOIL SHALL BE REMOVED AND TRENCH STABILIZATION MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.

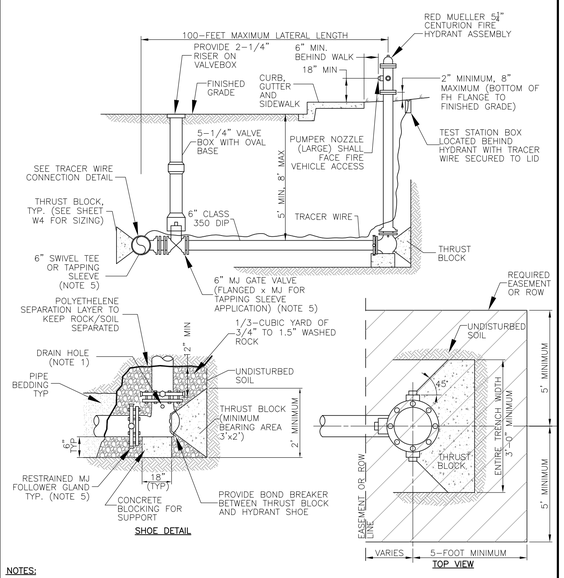
DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH SECTION PIPE PROTECTION	W1
	DATE: 8/15/14



NOTES:

1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES TO ASSURE PROPER SUPPORT OF THE VALVE. THE CITY ENGINEER MAY REQUIRE 3/4" CRUSHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT.
2. VALVES SHALL NOT BE PLACED IN CONCRETE SIDEWALKS, CROSS PANS, GUTTERS, OR OTHER DRAINAGE WAYS.
3. OPERATING NUTS OR EXTENSIONS SHALL NOT BE SET CLOSER THAN TWO (2) FEET FROM FINAL GRADE. IF THE OPERATING NUT IS DEEPER THAN FIVE (5) FEET FROM FINAL GRADE, PROVIDE A 1 1/4" EXTENSION SHAFT W/ CENTERING RING. OPERATOR EXTENSIONS SHALL BE CONNECTED TO THE VALVE OPERATOR NUT USING A PIN. THE EXTENSION SHAFT SHALL INCLUDE A 1/4" THICK TRASH RING LOCATED 6" BELOW THE NON-RISING PORTION OF THE VALVE BOX. THE DIAMETER OF THE TRASH RING SHALL BE 1/8" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX.
4. GATE VALVE SHALL BE POLYETHYLENE WRAPPED (8 MIL).
5. CONCRETE COLLARS & MARKER POSTS ARE REQUIRED WHEN VALVE IS LOCATED IN AN UNPAVED AREA.
6. VALVE BOXES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

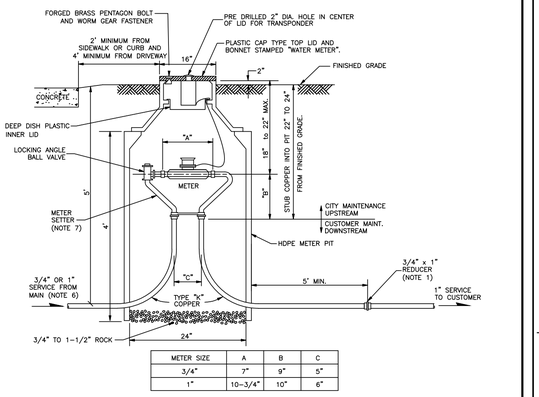
DESIGN STANDARDS	STANDARD DRAWING
VALVE BOX	W1
	DATE: 8/15/14



NOTES:

1. ALL FITTINGS, DI PIPE, AND HYDRANT BARREL SHALL BE POLYETHYLENE WRAPPED PER AWWA C-105. PROVIDE PERFORATION AT HYDRANT DRAIN HOLES.
2. PRIOR TO PUTTING INTO SERVICE THE FOLLOWING SHALL BE PERFORMED: NOZZLE THREADS SHALL BE GREASED, OIL RESERVOIR SHALL BE FILLED, AND HYDRANTS SHALL BE BRUSH PAINTED FIRE ENGINE RED (#7407).
3. THE ENTIRE PIPING ASSEMBLY (HYDRANT SHOE TO CONNECTION AT MAIN) SHALL BE FULLY RESTRAINED.

DESIGN STANDARDS	STANDARD DRAWING
FIRE HYDRANT INSTALLATION DETAIL	W2
	DATE: 8/15/14



METER SIZE	A	B	C
3/4"	7"	9"	5"
1"	10-3/4"	10"	6"

NOTES:

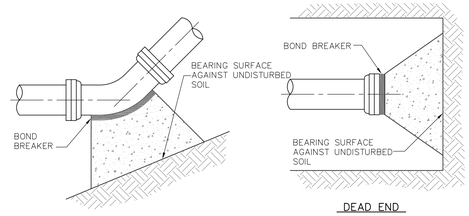
1. UPSIZING OF SERVICE PIPES AFTER THE METER REQUIRES THE APPROVAL OF THE BUILDING DEPARTMENT. FOR SERVICE PIPES UPSIZED FROM 3/4" TO 1", A REDUCER SHALL BE INSTALLED AS SHOWN ON THIS DETAIL.
2. ONLY COMPRESSION FITTINGS WILL BE ALLOWED ON COPPER SERVICE PIPES. FOR APPROVED MANUFACTURERS AND MODEL NUMBERS OF FITTINGS, REFER TO CHAPTER 3 OF THE CITY STANDARDS.
3. THIS DETAIL IS NOT INTENDED FOR INSTALLATION IN STREETS, DRIVEWAYS, OR CONCRETE AREAS.
4. METER PIT SHALL NE LOCATED IN A SOD OR MULCH AREA WITH A 10' MIN. WIDTH UTILITY EASEMENT. NO TREES, SHRUBS, OR STRUCTURES SHALL BE LOCATED IN THE EASEMENT.
5. SERVICE LINES TO THE METER PIT SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
6. FOR 3/4" RESIDENTIAL METER INSTALLATIONS, NEWLY INSTALLED SERVICE LINES FROM MAIN SHALL BE 1". EXISTING 3/4" SERVICE LINES MUST BE REVIEWED AND APPROVED FOR CONFORMANCE WITH RESIDENTIAL FIRE SPRINKLER SYSTEM REQUIREMENTS.
7. PROPER METER SETTERS SHALL BE INSTALLED TO ACCOMMODATE SERVICE LINE SIZES FROM MAIN AND TO CUSTOMER. REFER TO SECTION 3.63.08 OF THE CITY WATER SYSTEM STANDARDS FOR ACCEPTABLE SETTER MODEL NUMBERS.
8. PITS SHALL BE 20" X 24" X 48" AND "BULLET" STYLE

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" DOMESTIC METER SETS	W8
	DATE: 2/28/2022

GENERAL NOTES

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS, PARKING AREAS, SIDEWALKS, OR CONCRETE. EDGE OF METER PIT LID SHALL NOT BE CLOSER THAN 4' FROM EDGE OF DRIVEWAY.
2. IF SURFACE IS NOT TO OFFICIAL GRADE WHEN THE METER IS INSTALLED, THE OWNER MUST RAISE OR LOWER THE PIT, METER SETTER AND ALL OTHER APPURTENANCES TO THE FINAL APPROVED GRADE.
3. METER SHALL BE SET WITHIN PUBLIC R.O.W OR PUBLIC EASEMENT.
4. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
5. METER PIT SHALL BE CONSTRUCTED OF MODIFIED HI-DENSITY POLYETHELENE.
6. ADJUSTMENT RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT AND SHALL BE INSERTED ABOVE THE POLYETHYLENE METER PIT.
7. FOR WATER SERVICE LINES 1" AND LARGER: IF THE METER PIT IS NOT INSTALLED WITHIN THE PUBLIC R.O.W. THEN A CURB STOP AND BOX SHALL BE INSTALLED WITHIN THE PUBLIC R.O.W.

DESIGN STANDARDS	STANDARD DRAWING
3/4" & 1" METER NOTES	W9
	DATE: 8/15/14



MINIMUM BEARING SURFACE AREA
(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
4"	1.0	2.0	3.0	6.0	4.0
6"	2.0	3.0	6.0	11.0	8.0
8"	3.0	6.0	11.0	19.0	14.0
12"	6.0	12.0	22.0	40.0	29.0
16"	10.0	20.0	38.0	70.0	50.0
20"	15.0	30.0	59.0	108.0	46.0
24"	22.0	43.0	84.0	154.0	110.0

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM.
2. BEARING SURFACES ARE BASED ON 150 PSI INTERNAL PIPE \ PRESS PLUS WATER HAMMER.
   4", 6", 8" AND 12" WATER HAMMER = 110 PSI
   16", 20" AND 24" WATER HAMMER = 70 PSI
3. BEARING SURFACE CALCULATIONS ARE BASED ON 900 PSF SOIL BEARING CAPACITY.
4. ALL DUCTILE IRON AND CAST IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE AND SECURELY TAPED PRIOR TO PLACING TRUST BLOCKS.
5. NO COMPACTION SHALL BE ALLOWED ABOVE THRUST BLOCKS FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. CONCRETE MUST CURE A MIN. OF 48 HOURS PRIOR TO FILLING LINES.

DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCKS - BEARING SURFACES AND INSTALLATION	W3
	DATE: 8/15/14

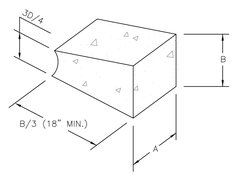
MINIMUM DIMENSIONS FOR THRUST BLOCKS

FITTING SIZE	TEES & PLUGS		90° BEND		45° BENDS & WYES	
	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"
14"	5'-5"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"

FITTING SIZE	REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B
4"	1'-7"	0'-6"	0'-6"	0'-6"
6"	1'-9"	0'-10"	1'-0"	0'-6"
8"	1'-9"	1'-6"	1'-0"	1'-0"
10"	2'-2"	1'-11"	1'-6"	1'-0"
12"	2'-7"	2'-3"	2'-0"	1'-0"
14"	3'-5"	2'-5"	2'-0"	1'-6"
20"	3'-6"	3'-0"	3'-0"	2'-0"
24"	4'-6"	3'-0"	3'-0"	3'-0"
30"	4'-9"	4'-6"	3'-3"	3'-3"

GENERAL NOTES:

1. BEARING SURFACE AREAS SHOWN IN CHART ARE MINIMUM.
2. BASED ON 150 P.S.I. INTERNAL PIPE PRESSURE.
3. SOIL BEARING CAPACITY = 2000 LB./SQ. FT.
4. ALL FITTINGS TO BE WRAPPED WITH POLYETHYLENE (MINIMUM 8 MIL.).



NOT TO SCALE

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL TRENCH BLOCK DIMENSIONS	W4
	DATE: 8/15/14

Name	Detail Number	Reference Sheet	Detail Sheet	Source
Paving and Site Details				
Thickened Edge Sidewalk	L1-1	C14.1	C20.3	LandOne
ADA Parking	L1-2	C14.1	C20.4	LandOne
Concrete Pan	L1-4	C14.2	C20.3	LandOne
Lateral Handicap Ramp	L1-12	C14.1, C14.2	C20.3	LandOne
Handicap Ramp	L1-13	C14.1, C14.2	C20.4	LandOne
Detached Sidewalk	L1-24	C14.1, C14.2	C20.3	LandOne
Typical Stop Sign Installation	L1-44	C14.1, C14.2	C20.3	LandOne
Vertical Curb & Gutter	R7	C14.1, C14.2	C20.4	Fort Lupton
Combination Curb, Gutter, and Walk	R8	C14.1, C14.2	C20.4	Fort Lupton
Sidewalk Ramp with Cross Pan	R11	C14.1, C14.2	C20.3	Fort Lupton
Potable Water Details				
Typical Trench Section Pipe Protection	W1	C8.0	C20.0	Fort Lupton
Valve Box	W1	C8.0	C20.0	Fort Lupton
Fire Hydrant Installation Detail	W2	C10.1, C10.2	C20.0	Fort Lupton
3/4" & 1" Domestic Meter Sets	W8	C10.1, C10.2	C20.0	Fort Lupton
3/4" & 1" Meter Notes	W9	C10.1, C10.2	C20.0	Fort Lupton
Concrete Thrust Blocks - Bearing Surfaces and Installation	W3	C10.1, C10.2	C20.0	Fort Lupton
Typical Trench Block Dimensions	W4	C10.1, C10.2	C20.0	Fort Lupton
Concrete Thrust Block for Unbalanced Surfaces	W5	C10.1, C10.2	C20.1	Fort Lupton
Tracer Wire	W7	C10.1, C10.2	C20.1	Fort Lupton
Conduit Crossing	W18	C10.1, C10.2	C20.1	Fort Lupton
Encasement for Conduit Crossing	W26	C10.1, C10.2	C20.1	Fort Lupton
Sanitary Sewer Details				
Single Sanitary Sewer Cleanout	L1-6	C8.0	C20.1	LandOne
Sanitary Sewer Standard Manhole	SS1	C8.0	C20.1	Fort Lupton
Typical Pipe Bedding	SS6	C8.0	C20.1	Fort Lupton
Encasement for Conduit Crossing	SS11	C9.1 - C9.3	C20.1	Fort Lupton
Sanitary Sewer Manhole Lid	SS12	C9.1 - C9.3	C20.2	Fort Lupton
Stormwater Details				
Standard Manhole Base	ST1	C12.1 - C12.3	C20.2	Fort Lupton
Typical Pipe Bedding	ST4	C12.1 - C12.3	C20.2	Fort Lupton
Curb Inlet Type R	ST5	C12.1 - C12.3	C20.2	Fort Lupton
Curb Inlet Type R	ST6	C12.1 - C12.3	C20.2	Fort Lupton
Curb Inlet Type R	ST7	C12.1 - C12.3	C20.3	Fort Lupton
Curb Inlet Type R	ST8	C12.1 - C12.3	C20.3	Fort Lupton
Encasement for Conduit Crossing	ST9	C12.1 - C12.3	C20.2	Fort Lupton
Nyloplast Drain Basin	7001-110-111	C12.1-C12.3	C20.2	Nyloplast

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

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Job Number 21-031
Checked By JG
Date 04/22/2022

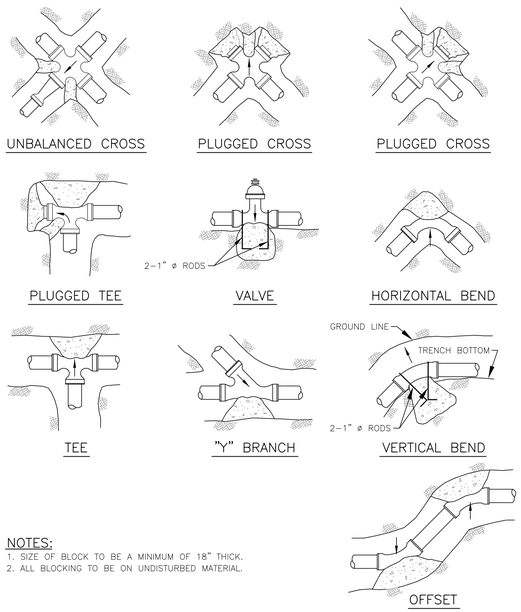
LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

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Rev. No.	Date	Revision Description
A.	04/22/2022	1st CD Submittal to City

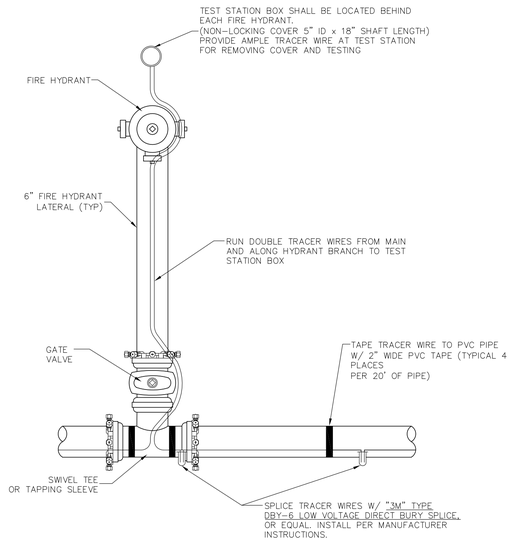
The Flats at Lupton Village
Construction Documents
Details
Fort Lupton, CO

Sheet C20.0

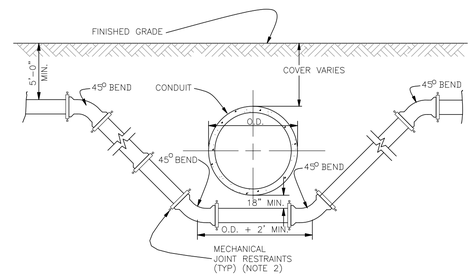


NOTES:
1. SIZE OF BLOCK TO BE A MINIMUM OF 18" THICK.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.

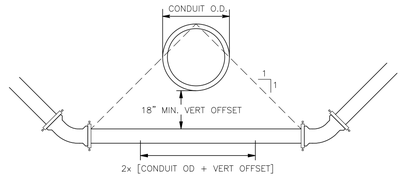
DESIGN STANDARDS	STANDARD DRAWING
CONCRETE THRUST BLOCK FOR UNBALANCED SURFACES	W5
	DATE: 8/15/14



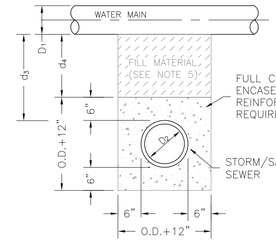
DESIGN STANDARDS	STANDARD DRAWING
TRACER WIRE	W7
	DATE: 8/15/14



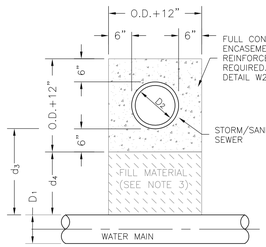
NOTES:
1. SEWER LINES CROSSING ABOVE WATER MAINS SHALL BE PVC C900 PRESSURE PIPE AND EXTEND 9' EACH SIDE OF CROSSING (MIN.).
2. MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS IN THE LOWERING AND FOR THE SPECIFIED DISTANCE BACK FROM THE LOWERING AS DESIGNED BY THE ENGINEER OF RECORD.
3. WATER MAINS CROSSING CULVERTS THAT ARE EXPOSED TO THE ELEMENTS SHOULD BE EVALUATED FOR FREEZE POTENTIAL.
4. A BORED CROSSING MAY BE REQUIRED FOR THE WATERMAIN.
5. CATHODIC PROTECTION MAY BE REQUIRED FOR THE DUCTILE IRON WATER MAINS AS SPECIFIED BY THE ENGINEER.



DESIGN STANDARDS	STANDARD DRAWING
CONDUIT CROSSING	W18
	DATE: 8/15/14



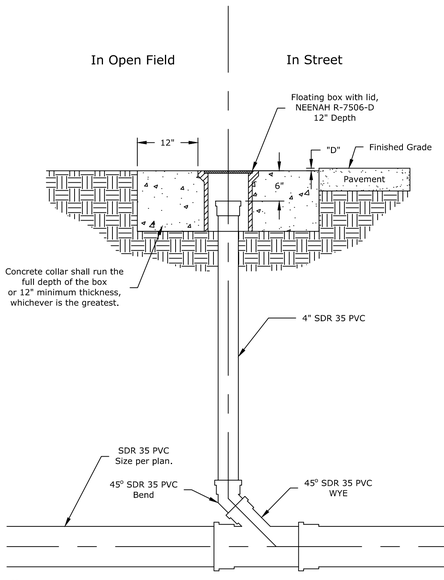
STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN
IF d_3 >18" AN ENCASEMENT IS NOT REQUIRED



NOTES:
1. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
2. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 9–FEET EACH SIDE OF WATER MAIN.
3. FILLER MATERIAL BETWEEN CONDUITS TO BE APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_4 \leq 6"$. COMPACTED BACKFILL, IF $d_4 > 6"$.
4. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT
5. A REINFORCED ENCASEMENT IS REQUIRED FOR ALL CONDUITS CROSSING OVER WATERMAINS BUT ENCASEMENTS ARE NOT REQUIRED TO BE REINFORCED IF CROSSING UNDER WATERMAINS.

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN
REINFORCED ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3

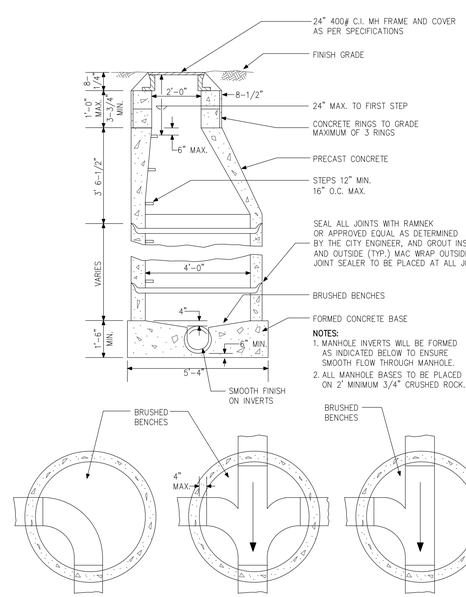
DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	W26
	DATE: 8/15/14



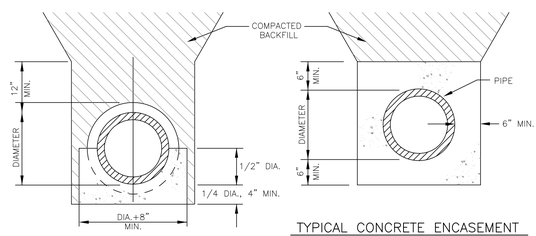
Notes:
1. "D" = 1/2" for pavement overlays, surface treatments, pavement reconstruction or new construction.
2. Concrete shall be CDOT Class B.

Single Sanitary Sewer Clean Out
Detail L1-6

February 15, 2018 Not to Scale

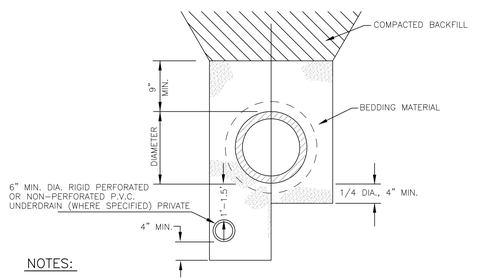


DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER STANDARD MANHOLE	SS1
	DATE: 8/15/14



CLASS A
CONCRETE CRADLE

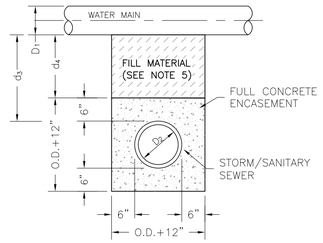
TYPICAL CONCRETE ENCASEMENT



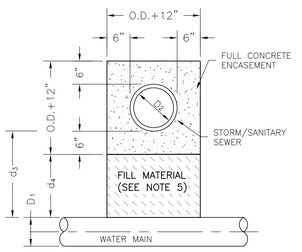
NOTES:
1. THIS DETAIL IS TO BE USED UNDER NORMAL CONDITIONS. WHERE EXCESSIVE GROUND WATER IS PRESENT AN ALTERNATE DESIGN WILL BE REQUIRED.

CLASS B
GRANULAR BEDDING

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	SS6
	DATE: 8/15/14



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN
IF d_3>18", ENCASEMENT NOT REQUIRED



NOTES:
1. CONCRETE COLLAR AROUND STORM SEWER JOINTS MAY BE ACCEPTED WITH WRITTEN APPROVAL BY THE CITY ENGINEER AND ONLY FOR PIPE 30" OR LARGER.
2. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
3. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 10–FEET EACH SIDE OF WATER MAIN.
4. UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, ENCASEMENTS NEED NOT BE REINFORCED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_4 \leq 6"$.
   b) COMPACTED BACKFILL, IF $d_4 > 6"$.
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT

STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN
ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3
(SEE NOTE 1 FOR SPECIAL CASES)

DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	SS11
	DATE: 8/15/14

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
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Job Number 21-031
Checked By JG
Date 04/22/2022

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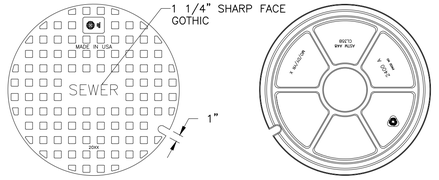
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

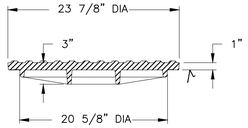
The Flats at Lupton Village
Construction Documents
Details
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Sheet C20.1

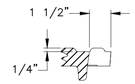
2400A Cover



COVER BACK



SECTION

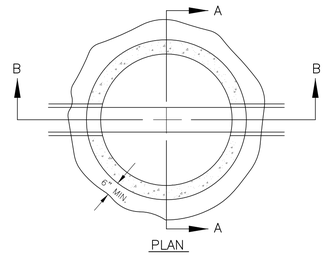


PICKSLOT DETAIL

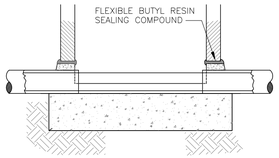
Product Number
00240023
Design Features
-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Coating
Undipped
-√ Designates Machined Surface

Certification
-ASTM A48
-Country of Origin:USA

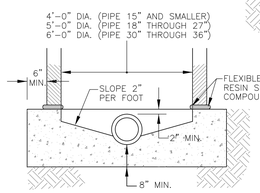
DESIGN STANDARDS	STANDARD DRAWING
SANITARY SEWER MANHOLE LID	SS12
	DATE: 5/04/2017



PLAN



SECTION B–B

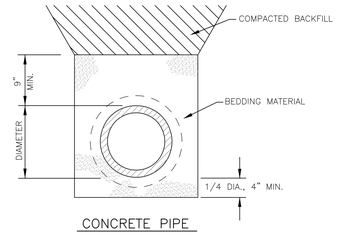


SECTION A–A

NOTES:

1. JOINTS TO BE SET IN FLEXIBLE BUTYL RESIN SEALING COMPOUND AND GROUTED WITH MORTAR INSIDE AND OUTSIDE.
2. BASES SHALL BE REINFORCED WHEN THE DISTANCE FROM INVERT TO TOP OF COVER WILL EXCEED 15 FT. REINFORCING TO BE APPROVED BY CITY ENGINEER.
3. SQUARE BASES ARE ACCEPTABLE.
4. FOR PIPE 36" AND LARGER, OR WHERE CONDITIONS SUCH AS MULTIPLE PIPES WARRANT, A CONCRETE BOX BASE WILL BE REQUIRED. (SEE CDOT STANDARD DRAWING M–604–20)

DESIGN STANDARDS	STANDARD DRAWING
STANDARD MANHOLE BASE	ST1
	DATE: 8/15/14

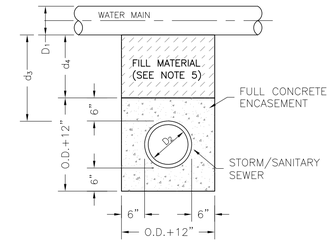


CONCRETE PIPE

NOTES:

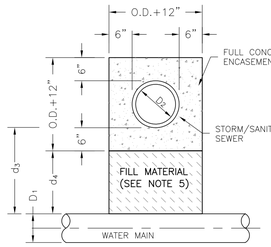
1. THIS DETAIL IS TO BE USED UNDER NORMAL CONDITIONS. WHERE EXCESSIVE GROUND WATER IS PRESENT AN ALTERNATE DESIGN WILL BE REQUIRED.

DESIGN STANDARDS	STANDARD DRAWING
TYPICAL PIPE BEDDING	ST4
	DATE: 8/15/14



STORM OR SANITARY SEWER CROSSING UNDER WATER MAIN

IF $d_3 > 18"$, ENCASEMENT NOT REQUIRED



NOTES:

1. CONCRETE COLLAR AROUND STORM SEWER JOINTS MAY BE ACCEPTED WITH WRITTEN APPROVAL BY THE CITY ENGINEER AND ONLY FOR PIPE 30" OR LARGER.
2. CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING.
3. LENGTH OF ENCASEMENT SHALL EXTEND AT LEAST 10–FEET EACH SIDE OF WATER MAIN.
4. UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, ENCASEMENTS NEED NOT BE REINFORCED.
5. FILLER MATERIAL BETWEEN CONDUITS TO BE:
   a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF $d_4 \leq 6"$,
   b) COMPACTED BACKFILL, IF $d_4 > 6"$.
6. SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT

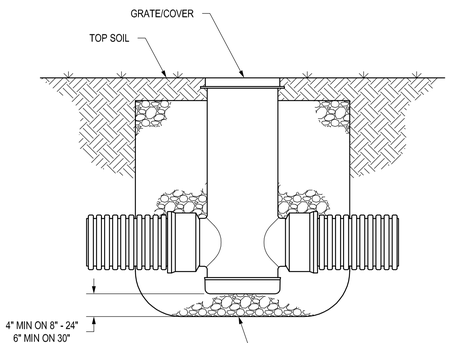
STORM OR SANITARY SEWER CROSSING OVER TOP OF WATER MAIN

ENCASEMENT REQUIRED REGARDLESS OF DIMENSION d_3
(SEE NOTE 1 FOR SPECIAL CASES)

DESIGN STANDARDS	STANDARD DRAWING
ENCASEMENT FOR CONDUIT CROSSING	ST9
	DATE: 8/15/14

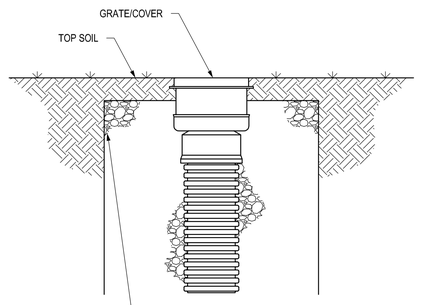
NON TRAFFIC INSTALLATION

DRAIN BASIN



THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

INLINE DRAIN



THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

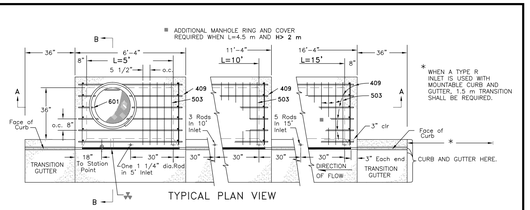
THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2011 NYLOPLAST

DRAWN BY	CJA	MATERIAL	
DATE	9-30-99		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:25	SHEET 1 OF 1

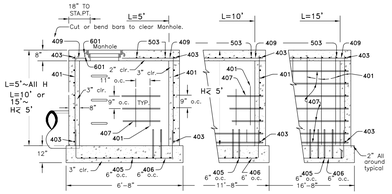
Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION

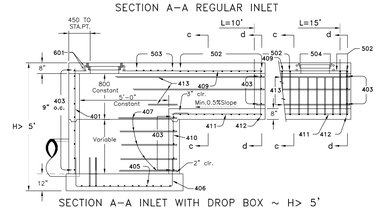
DWG NO. 7001-110-111 REV E



TYPICAL PLAN VIEW



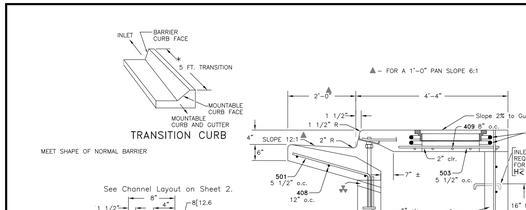
SECTION A–A REGULAR INLET



SECTION A–A INLET WITH DROP BOX ~ H> 5'

(1 OF 4)

DESIGN STANDARDS	STANDARD DRAWING
CURB INLET TYPE R	ST5
	DATE: 8/15/14



(2 OF 4)

DESIGN STANDARDS	STANDARD DRAWING
CURB INLET TYPE R	ST6
	DATE: 8/15/14

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY NOT FOR CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents
Details
Fort Lupton, CO

Sheet C20.2

TABLE ONE ~ BAR LIST FOR CURB INLETS, TYPE "R"

MARK	DIA (in)	O.C. SPACING (in)	TYPE	ALL INLETS L= → 5' NO. REQ'D.	ALL INLETS L= → 5' LENGTH (ft–in)	INLETS, H ≥ 5' 10' NO. REQ'D.	INLETS, H ≥ 5' 10' LENGTH (ft–in)	INLETS, H ≥ 5' 15' NO. REQ'D.	INLETS, H ≥ 5' 15' LENGTH (ft–in)	INLETS, H ≥ 5' 10' NO. REQ'D.	INLETS, H ≥ 5' 10' LENGTH (ft–in)	INLETS, H ≥ 5' 15' NO. REQ'D.	INLETS, H ≥ 5' 15' LENGTH (ft–in)
401		11"	II	15	*	21	*	26	*	11	*	11	*
402		11"	II	7	*	13	*	18	*	7	*	7	*
403		9"	II	*	4'-0"	*	4'-0"	*	4'-0"	*	4'-0"	*	4'-0"
405		6"	VI	11	6'-10"	21	6'-10"	31	6'-10"	11	6'-10"	11	6'-10"
406		6"	VIII	7	8'-10"	7	13'-10"	7	18'-10"	7	8'-10"	7	8'-10"
407	1/2"	9"	II	*	5'-10"	*	10'-10"	*	15'-10"	*	5'-10"	*	5'-10"
408		12"	II	3	6'-0"	3	11'-0"	3	16'-0"	3	11'-0"	3	16'-0"
409		8"	II	6	5'-10"	6	10'-10"	6	15'-10"	6	10'-10"	6	15'-10"
410		11"	VI							3	*	3	*
411		11"	II							3	5'-2"	3	10'-2"
412		11"	II							3	2'-9"	3	2'-9"
413		9"	II							7	10'-10"	7	15'-10"
501		5 1/2"	IX	11	3'-4"	22	3'-4"	33	3'-4"	22	3'-4"	33	3'-4"
502	5/8"	5 1/2"	II							11	11'-5"	17	11'-5"
503		5 1/2"	II	5	3'-6"	16	3'-6"	27	3'-6"	6	3'-6"	6	3'-6"
504		5 1/2"	II									5	8'-4"
601	3/4"	2 1/2"	X	2	8'-10"	2	8'-10"	2	8'-10"	2	8'-10"	4	8'-10"
Ø8(8.5				1	5'-10"	1	10'-10"	1	15'-10"	1	10'-10"	1	15'-10"
▼				2 BARS, 1 ROD	——	4 BARS, 3 RODS	——	8 BARS, 5 RODS	——	4 BARS, 3 RODS	——	8 BARS, 5 RODS	——

* VARIABLE, REFER TO TABLE TWO.
Ø INCLUDE 18" NO. 4 BARS (SEE CHANNEL LAYOUT DETAIL).
▼ SEE CURB FACE ASSEMBLY ON SHEET 2 AND CHANNEL LAYOUT DETAILS ON SHEET 4.

REGULAR INLETS

DROP BOX INLETS

TABLE TWO ~ BARS AND QUANTITIES VARIABLE WITH "H"

"H" (ft–in)	LENGTH (ft–in) 401	402	410	NO. REQ'D. REGULAR 403	407	NO. REQ'D. DROP BOX 403	407	L= 5' CONC. CU.YD.	L= 5' STEEL LBS.	L= 10' CONC. CU.YD.	L= 10' STEEL LBS.	L= 15' CONC. CU.YD.	L= 15' STEEL LBS.
3'-0"	2'-8"	1'-8"		10	7			3.2	285	5.3	497	7.4	706
3'-6"	3'-2"	2'-2"		10	7			3.4	305	5.7	528	7.9	747
4'-0"	3'-8"	2'-8"		12	9			3.7	326	6.0	559	8.4	786
4'-6"	4'-2"	3'-2"		12	9			3.9	334	6.4	571	8.8	803
5'-0"	4'-8"	3'-8"		14	11			4.1	354	6.7	602	9.3	844
5'-6"	5'-2"	4'-2"	3'-5"	16	13	15	6	4.4	375	6.0	607	7.4	850
6'-0"	5'-8"	4'-8"	3'-11"	16	13	16	6	4.6	382	6.2	616	7.6	860
6'-6"	6'-2"	5'-2"	4'-5"	18	15	18	8	4.8	402	6.4	637	7.8	880
7'-0"	6'-8"	5'-8"	4'-11"	20	17	19	10	5.0	423	6.6	654	8.0	897
7'-6"	7'-2"	6'-2"	5'-5"	20	17	20	10	5.3	430	6.9	664	8.3	907
8'-0"	7'-8"	6'-8"	5'-11"	22	19	22	12	5.5	451	7.1	684	8.5	927
8'-6"	8'-2"	7'-2"	6'-5"	24	21	23	14	5.7	471	7.3	702	8.7	944
9'-0"	8'-8"	7'-8"	6'-11"	24	21	24	14	6.0	479	7.6	711	9.0	954
9'-6"	9'-2"	8'-2"	7'-5"	26	23	26	16	6.2	499	7.8	732	9.2	974
10'-0"	9'-8"	8'-8"	7'-11"	28	25	27	18	6.4	520	8.0	749	9.4	992
10'-6"	10'-2"	9'-2"	8'-5"	28	25	28	18	6.7	527	8.3	759	9.7	1001
11'-0"	10'-8"	9'-8"	8'-11"	30	27	30	20	6.9	547	8.5	779	9.9	1022

NOTE: FOR L= 5', L= 10' AND L= 15'

REGULAR INLETS: TOTAL QUANTITIES NEEDED ARE OUTSIDE OF THE HEAVY BLACK LINE.

DROP BOX INLETS: TOTAL QUANTITIES NEEDED ARE INSIDE OF THE HEAVY BLACK LINE.

STEEL WEIGHTS DO NOT INCLUDE STRUCTURAL STEEL.

TYPE II | TYPE III | TYPE IV | TYPE V | TYPE VI | TYPE VII | TYPE VIII | TYPE IX

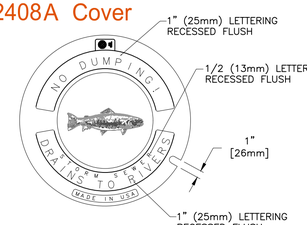
BAR BENDING DIAGRAMS ~ (Dimensions are Out–to–Out of bar)

(3 OF 4)

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US

DESIGN STANDARDS	STANDARD DRAWING
CURB INLET TYPE R	ST7
	DATE: 8/15/14

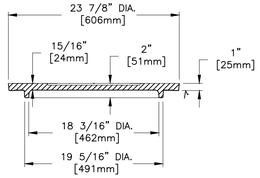
2408A Cover



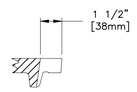
TOP OF COVER



BOTTOM OF COVER



SECTION OF COVER



OPEN PICKHOLE

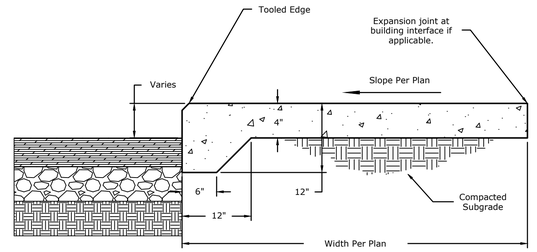
Product Number
00240858

Design Features
-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Coating
Undipped
-√ Designates Machined Surface

Certification
- ASTM A48
-Country of Origin:USA

(4 OF 4)

DESIGN STANDARDS	STANDARD DRAWING
CURB INLET TYPE R	ST8
	DATE: 5/04/2017

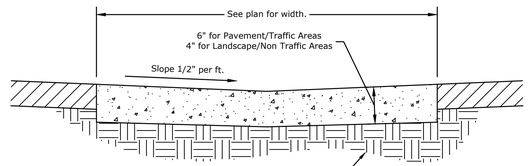


Notes:

1. Expansion joints required at 400 foot maximum spacing and additional may be required at the discretion of the engineer. See Concrete Joint details.
2. Expansion joints required between concrete and building. Expansion material shall be 1/2" pre-molded non-extruding material. Expansion joint shall be sealed with a self leveling polyurethane sealant.
3. Maximum spacing of contraction joints is ten (10) feet.
4. Compacted subgrade per specifications.
5. Concrete shall be CDOT Class B.
6. Concrete shall receive a light broom finish.

Thickened Edge Sidewalk
Detail L1-1
February 15, 2018 Not to Scale

LANDONE engineering

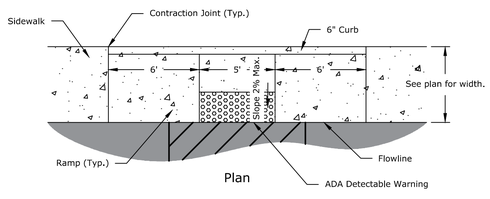


Notes:

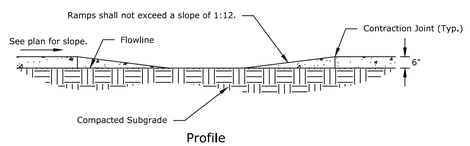
1. Expansion joints required at 400 foot maximum spacing and additional may be required at the discretion of the engineer.
2. Maximum spacing of contraction joints is ten (10) feet.
3. Compact subgrade per plans.
4. Concrete shall be CDOT Class B.
5. Concrete shall receive a light broom finish.
6. For Pavement/Traffic areas install #5 rebar @ 12" O.C.

Concrete Pan
Detail L1-4
September 22, 2018 Not to Scale

LANDONE engineering



Plan

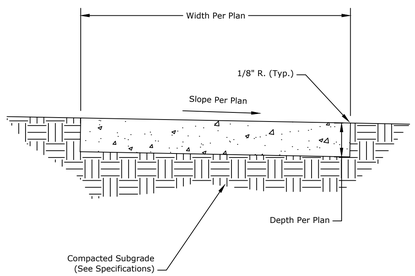


Profile

Notes:
1. Compact grade per specifications.
2. Concrete shall be CDOT Class B.
3. Concrete shall receive a light broom finish.

Lateral Handicap Ramp
Detail L1-12
February 19, 2018 Not to Scale

LANDONE engineering

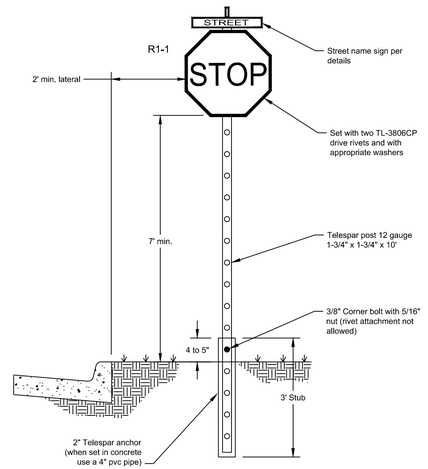


Notes:

1. Maximum spacing of contraction joints is ten (10) feet.
2. Expansion joints required at 400 foot maximum spacing. Additional joints may be required at the discretion of the engineer. See joint details.
3. Concrete surfaces to receive a light broom finish.

Detached Sidewalk
Detail L1-24
November 7, 2018 Not to Scale

LANDONE engineering

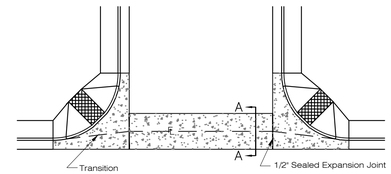


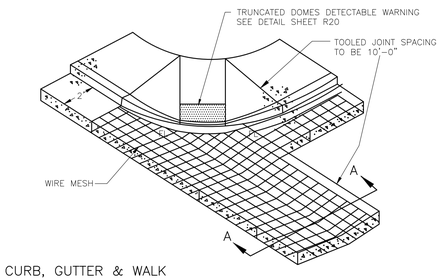
Notes:

1. Sign should be set at an angle of 90° and be visible to approaching traffic.
2. All signs shall meet the most current MUTCD standards.

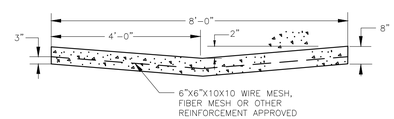
Typical Stop Sign Installation
L1-44
December 17, 2019

LANDONE engineering





CURB, GUTTER & WALK



SECTION A–A

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US

DESIGN STANDARDS	STANDARD DRAWING
SIDEWALK RAMP WITH CROSS PAN	R11
	DATE: 3/15/17

LANDONE engineering

361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

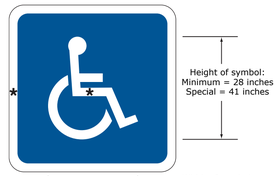
Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents
Details
Fort Lupton, CO

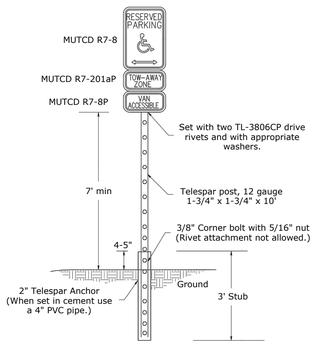
Sheet C20.3

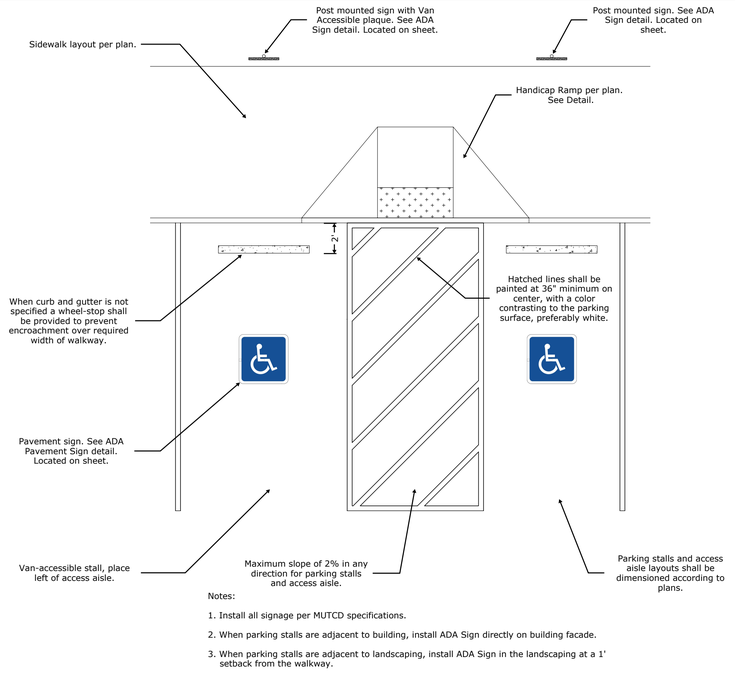
L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Details 21-031.dwg, 4/22/2022 1:41:39 PM, Jennilinn, LandOne Engineering

ADA Pavement Sign



ADA Sign





Notes:

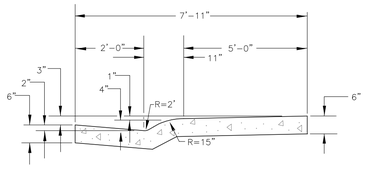
1. Install all signage per MUTCD specifications.
2. When parking stalls are adjacent to building, install ADA Sign directly on building facade.
3. When parking stalls are adjacent to landscaping, install ADA Sign in the landscaping at a 1' setback from the walkway.

ADA Parking

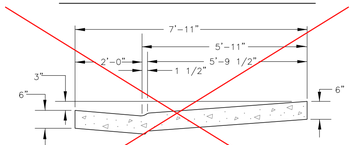
Detail L1-2

February 15, 2018 — Not to Scale

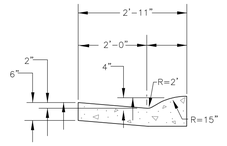
LANDONE engineering



COMBINATION CURB, GUTTER & WALK STANDARD SECTION

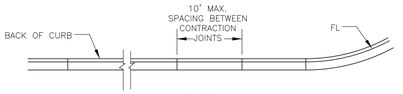


COMBINATION CURB, GUTTER & WALK DEPRESSED SECTION

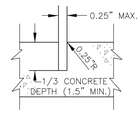


4" MOUNTABLE CURB & GUTTER

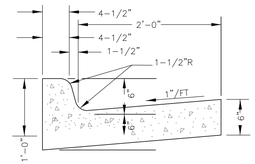
CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	COMBINATION CURB, GUTTER, AND WALK	R8
		DATE: 8/15/14



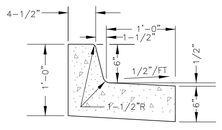
LAYOUT



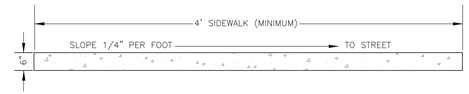
CONTRACTION JOINT



6" VERTICAL CURB & GUTTER

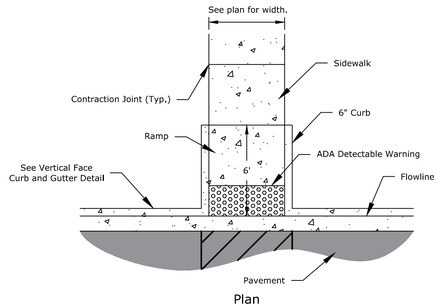


6" VERTICAL MEDIAN CURB & GUTTER

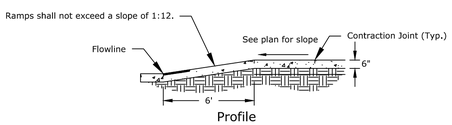


ATTACHED OR DETACHED WALK

CITY OF Fort Lupton EST 1836 COME PAINT YOUR FUTURE WITH US	DESIGN STANDARDS	STANDARD DRAWING
	VERTICAL CURB AND GUTTER	R7
		DATE: 8/15/14



Plan



Profile

Notes:

1. Compact grade per specifications.
2. Concrete shall be CDOT Class B.
3. Concrete shall receive a light broom finish.

Handicap Ramp

Detail L1-13

February 19, 2018 — Not to Scale

LANDONE engineering

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY NOT FOR CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/22/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

The Flats at Lupton Village
Construction Documents
Details
Fort Lupton, CO

Sheet C20.4

LAND SURVEY PLAT

A Portion of the West Half of the Southwest Quarter of Section 5, Township 1 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

PROPERTY DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

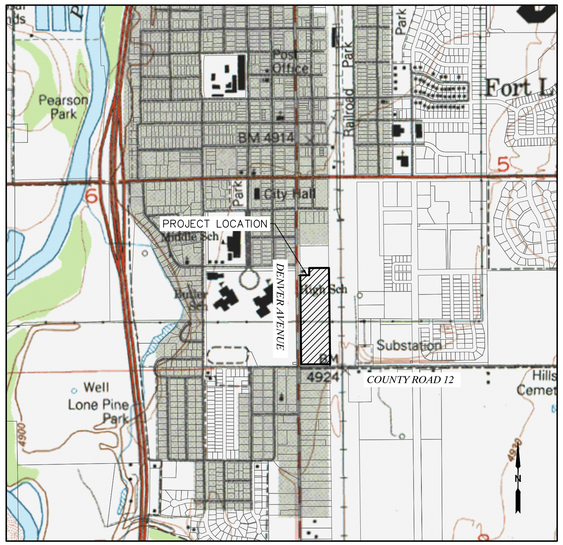
BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1151.07 feet;
THENCE South 89°40'24" West a distance of 434.16 feet to the West line of the SW1/4 of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.



VICINITY MAP
SCALE - 1"=1000'

TITLE COMMITMENT NOTE

This survey does not constitute a title search by Lat40, Inc. to determine ownership or easements of record. For all information regarding easements, rights-of-way and title of records, Lat40, Inc. relied upon ALTA Commitment Order Number FCC25171398-2, dated January 20, 2020, 5:00 P.M. as prepared by Old Republic National Title Insurance Company to delineate the aforesaid information.

SURVEYOR'S STATEMENT

I, Jason S. Allee, a Colorado Licensed Professional Land Surveyor, do hereby state that this Land Survey Plat was prepared from an actual survey under my personal supervision, that the monumentation as indicated hereon was found or set as shown, and that the foregoing plat is an accurate representation thereof, all this to the best of my knowledge, information and belief.

COLORADO LICENSED JASON S. ALLEE 38479 PROFESSIONAL LAND SURVEYOR 9/15/21

Sheet 1 of 2

Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

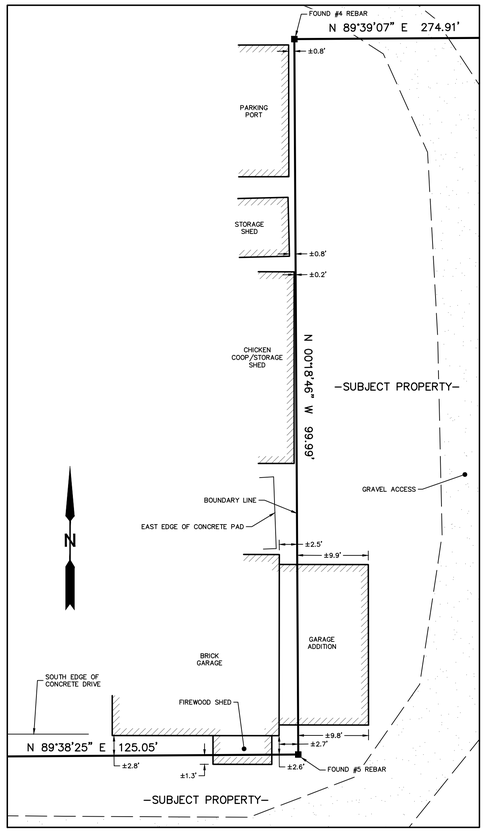
1. Survey completed on August 2, 2021.

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

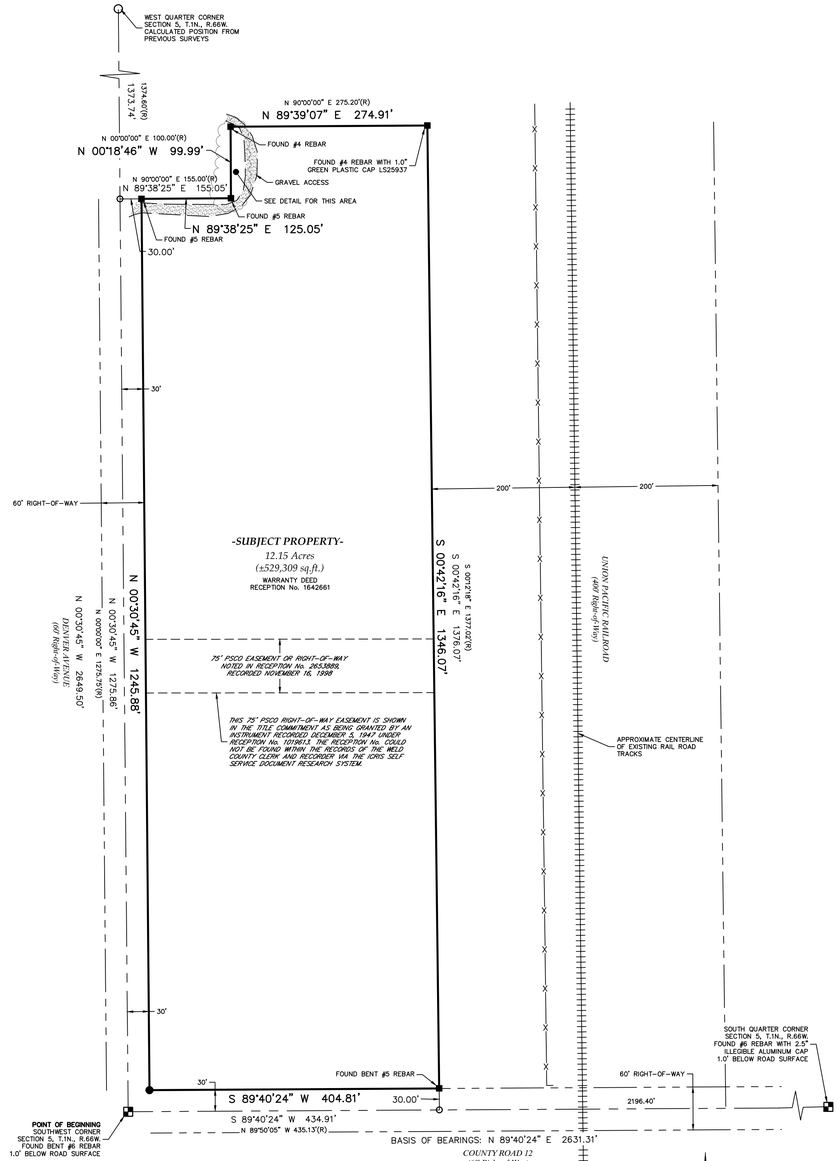
Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Lots described hereon are for Metro and Zoning District purposes only and are not intended to create any additional buildable lots.



DETAIL
SCALE - 1"=10'



LEGEND

BOUNDARY LINE	FOUND ALIQUOT MONUMENT AS DESCRIBED
SECTION LINE	FOUND PROPERTY PIN AS DESCRIBED
RIGHT-OF-WAY LINE	SET #4 REBAR WITH PINK PLASTIC CAP STAMPED LAT40 LS38479, UNLESS NOTED OTHERWISE
FENCE LINE	CALCULATED POSITION
EASEMENT LINE	(R) RECORD BEARING AND DISTANCE PER WARRANTY DEED RECORDED AUGUST 13, 1974 AT RECEPTION No. 1642661
RAILROAD TRACKS	
BUILDING	

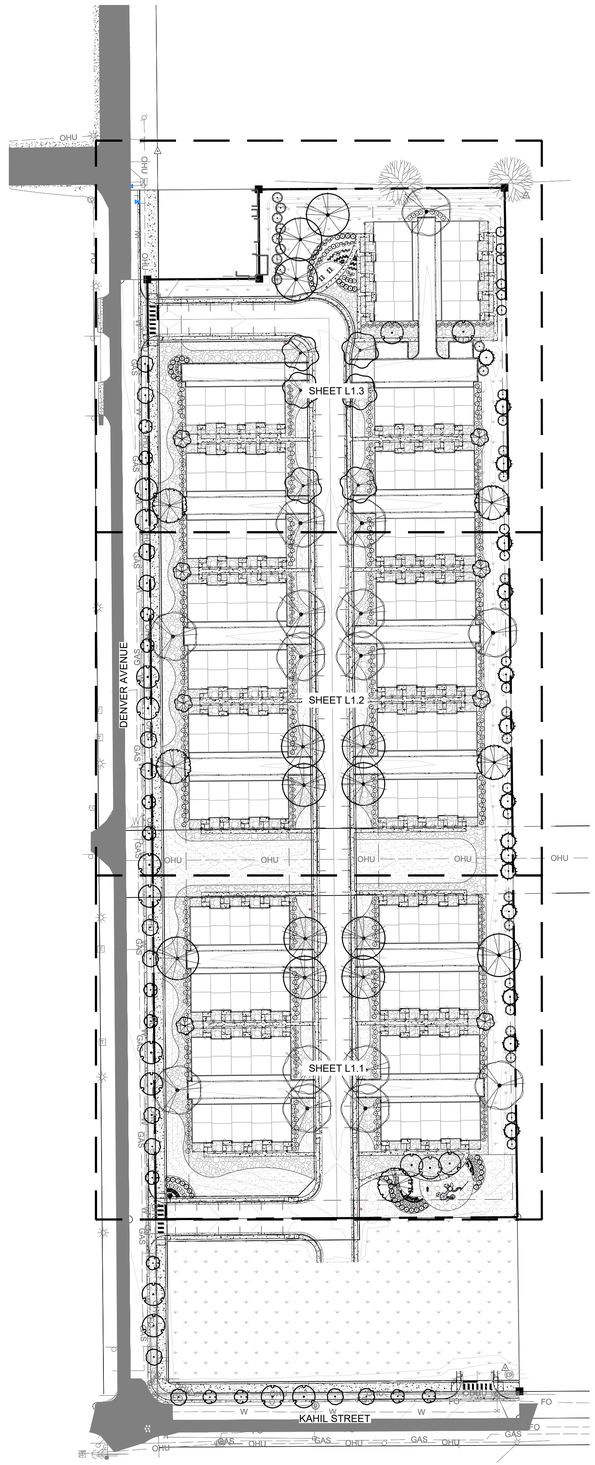
Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
7/29/2021	2021233LSP	JSA	JSA	AS NOTED	2021233

REVISIONS:	DATE:

LAND SURVEY PLAT
FOR
FORT LUPTON LAND ASSEMBLAGE. LLLP
1295 MAIN STREET # 5
WINDSOR, CO 80550

1
SHEET 1 OF 1



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
	5	AESCULUS GLABRA OHIO BUCKEYE
	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
	15	QUERCUS ROBUR ENGLISH OAK
	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
	14	ACER GINNALA AMUR MAPLE
	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	CONCRETE

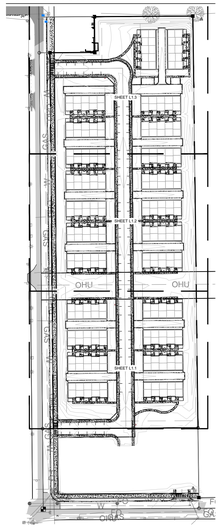
02 LANDSCAPE MATERIAL

SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
- FO = EXISTING FIBER OPTIC
- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

KEY MAP



THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripley design
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH
SCALE: 1"=80'-0"
0 40 80 160

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

OVERALL LANDSCAPE PLAN

SEAL:

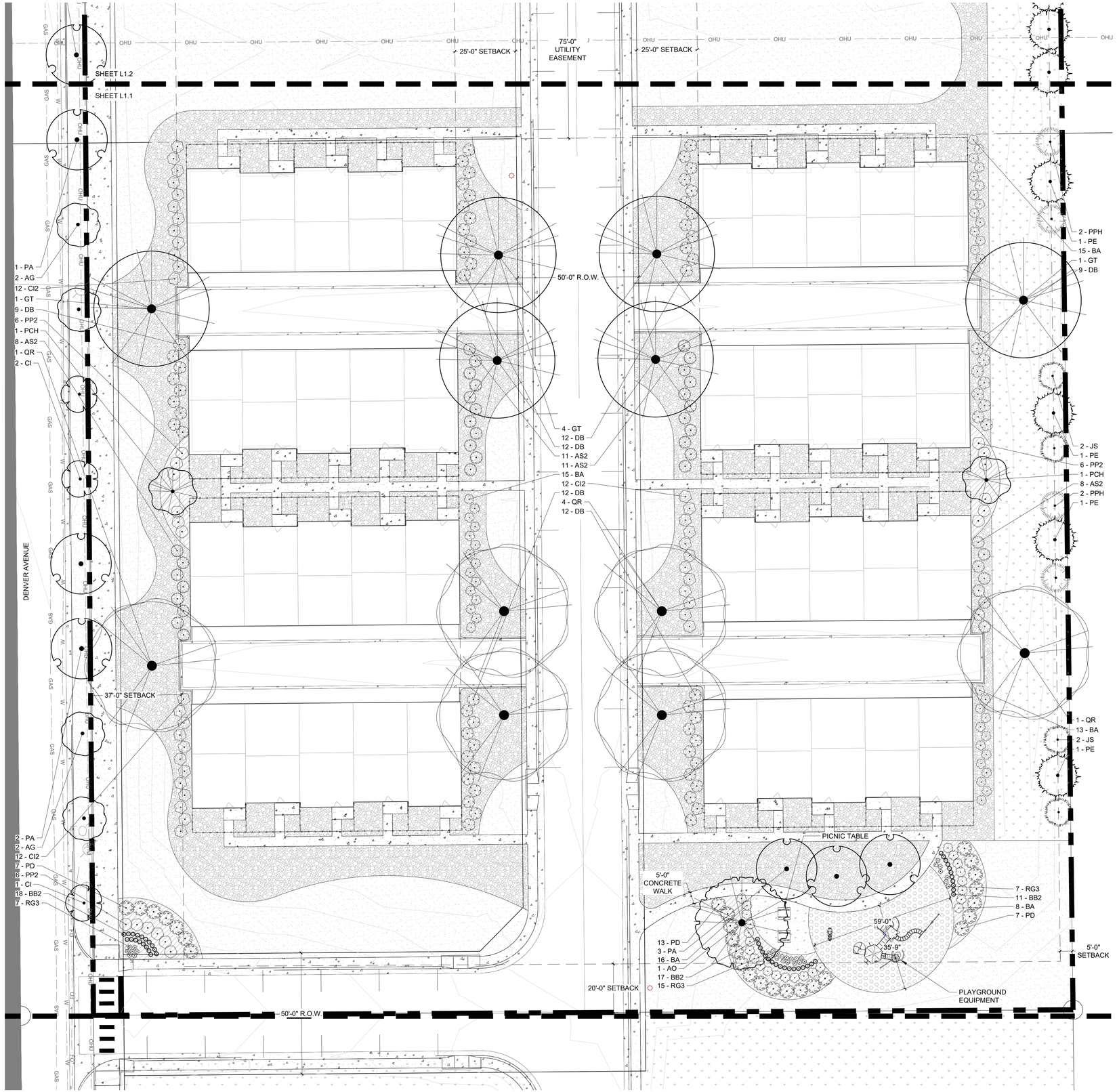
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PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

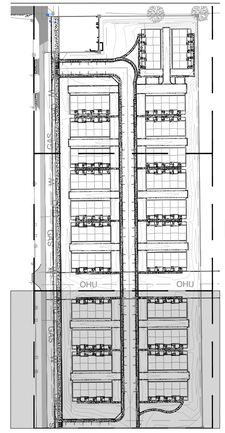
DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
PE	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
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CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
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PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
DB	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
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ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

= PROPERTY BOUNDARY
= STORM DRAIN
= EXISTING SANITARY SEWER
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= EXISTING GAS
= EXISTING FIBER OPTIC
= EXISTING ELECTRIC
= OVERHEAD ELECTRIC
= EXISTING FENCE
= EXISTING TREE
= EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

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CIVIL ENGINEER

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Jeremy Goetsch
361 71st Avenue
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p. 970.443.9547

NORTH
0 10 20 40
SCALE: 1"=20'-0"
ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
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REVISIONS

No.	DESCRIPTION	DATE
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LANDSCAPE PLAN ENLARGEMENT

SEAL:

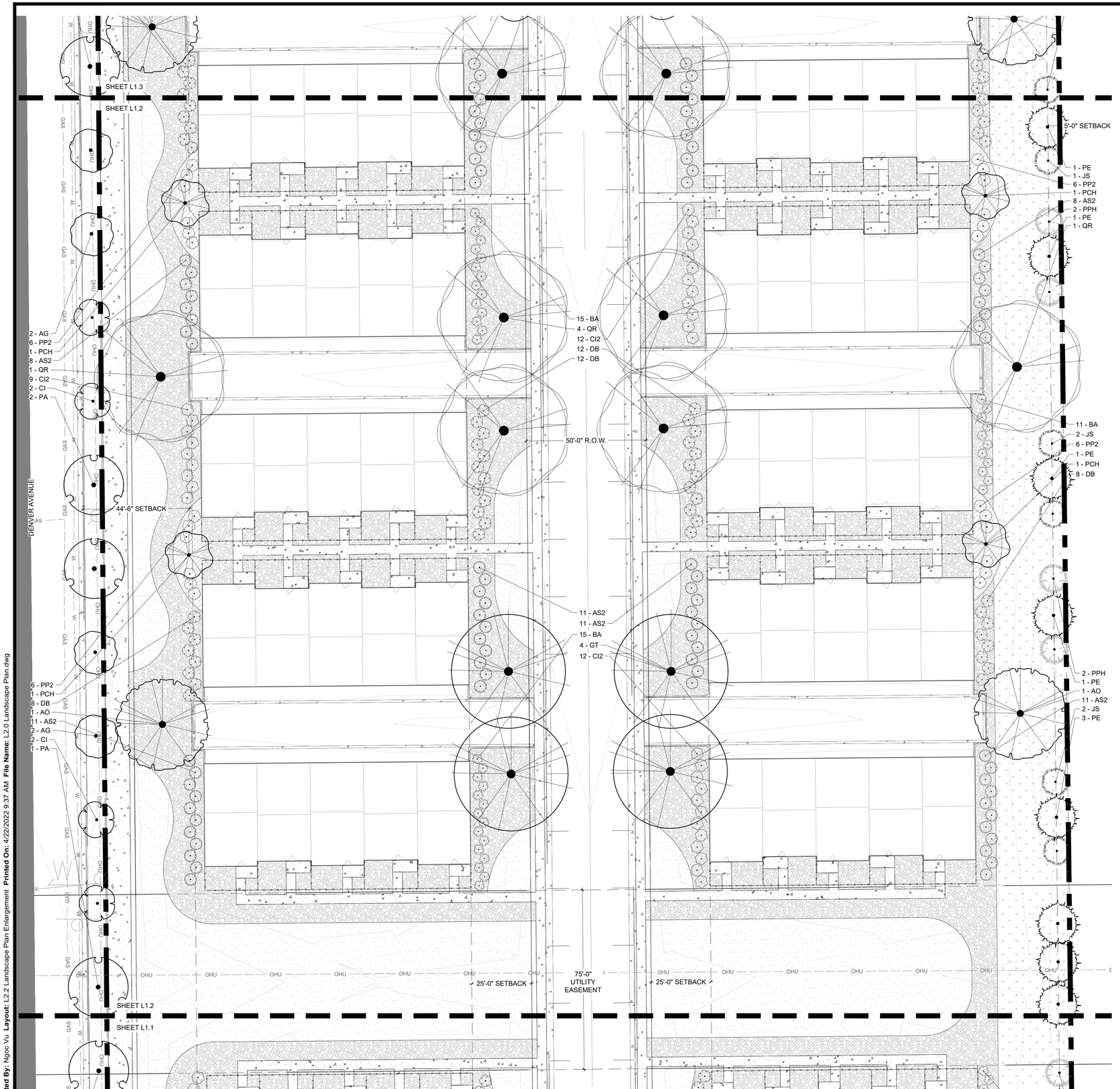
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

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REVIEWED BY:	KT

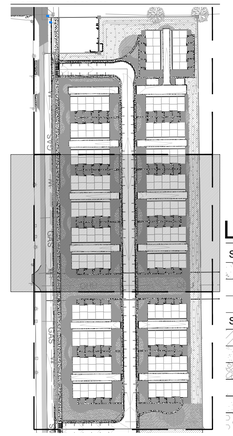
DRAWING NUMBER:

L1.1 OF 5

Plotted By: Ngoc Vu **Layout:** Landscape Plan Enlargement **Printed On:** 4/22/2022 9:36 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACING

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TREES	QTY	BOTANICAL / COMMON NAME
AO	5	AESCULUS GLABRA OHIO BUCKEYE
GT	13	GLEDITSIA TRIACANTHOS HONEY LOCUST
QR	15	QUERCUS ROBUR ENGLISH OAK
TA	6	TILIA AMERICANA AMERICAN LINDEN

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME
JS	18	JUNIPERUS SCOPULORUM ROCKY MOUNTAIN JUNIPER
PPH	21	PICEA PUNGENS `HOOPSII` HOOPSI SPRUCE
PE	15	PINUS CEMBROIDES EDULIS PINYON PINE

ORNAMENTAL TREE	QTY	BOTANICAL / COMMON NAME
AG	14	ACER GINNALA AMUR MAPLE
CI	14	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN
PA	17	PRUNUS CERASIFERA 'ATROPURPUREA' PURPLE-LEAF PLUM
PCH	8	PYRUS CALLERYANA `CHANTICLEER` CHANTICLEER ORNAMENTAL PEAR

SHRUBS	QTY	BOTANICAL / COMMON NAME
AS2	145	AMELANCHIER ALNIFOLIA SERVICEBERRY
BA	170	BERBERIS THUNBERGII `ATROPURPUREA` RED LEAF JAPANESE BARBERRY
BB2	60	BOUTELOUA GRACILIS `BLONDE AMBITION` BLONDE AMBITION GRASS
CI2	90	CORNUS SERICEA `ISANTI` ISANTI REDOSIER DOGWOOD
DB	148	DAPHNE X BURKWOODII `CAROL MACKIE` CAROL MACKIE DAPHNE
PD	52	PHYSOCARPUS OPULIFOLIUS `DIABLO` DIABLO NINEBARK
PP2	62	PRUNUS BESSEYI `P011S` TM PAWNEE BUTTES SAND CHERRY
RG3	39	RUDBECKIA FULGIDA SULLIVANTII `GOLDSTURM` BLACK-EYED SUSAN

ORNAMENTAL GRASS	QTY	BOTANICAL / COMMON NAME
CAK	15	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` FEATHER REED GRASS

LEGEND

- = PROPERTY BOUNDARY
- = STORM DRAIN
- SS = EXISTING SANITARY SEWER
- SD = EXISTING STORM DRAIN
- W = EXISTING WATER LINE
- GAS = EXISTING GAS
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- E = EXISTING ELECTRIC
- OHU = OVERHEAD ELECTRIC
- = EXISTING FENCE
- = EXISTING TREE
- = EXISTING SIGN

THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

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CIVIL ENGINEER

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p. 970.443.9547

NORTH SCALE: 1"=20'-0"
0 10 20 40

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	04/22/2022

LANDSCAPE PLAN ENLARGEMENT

SEAL:

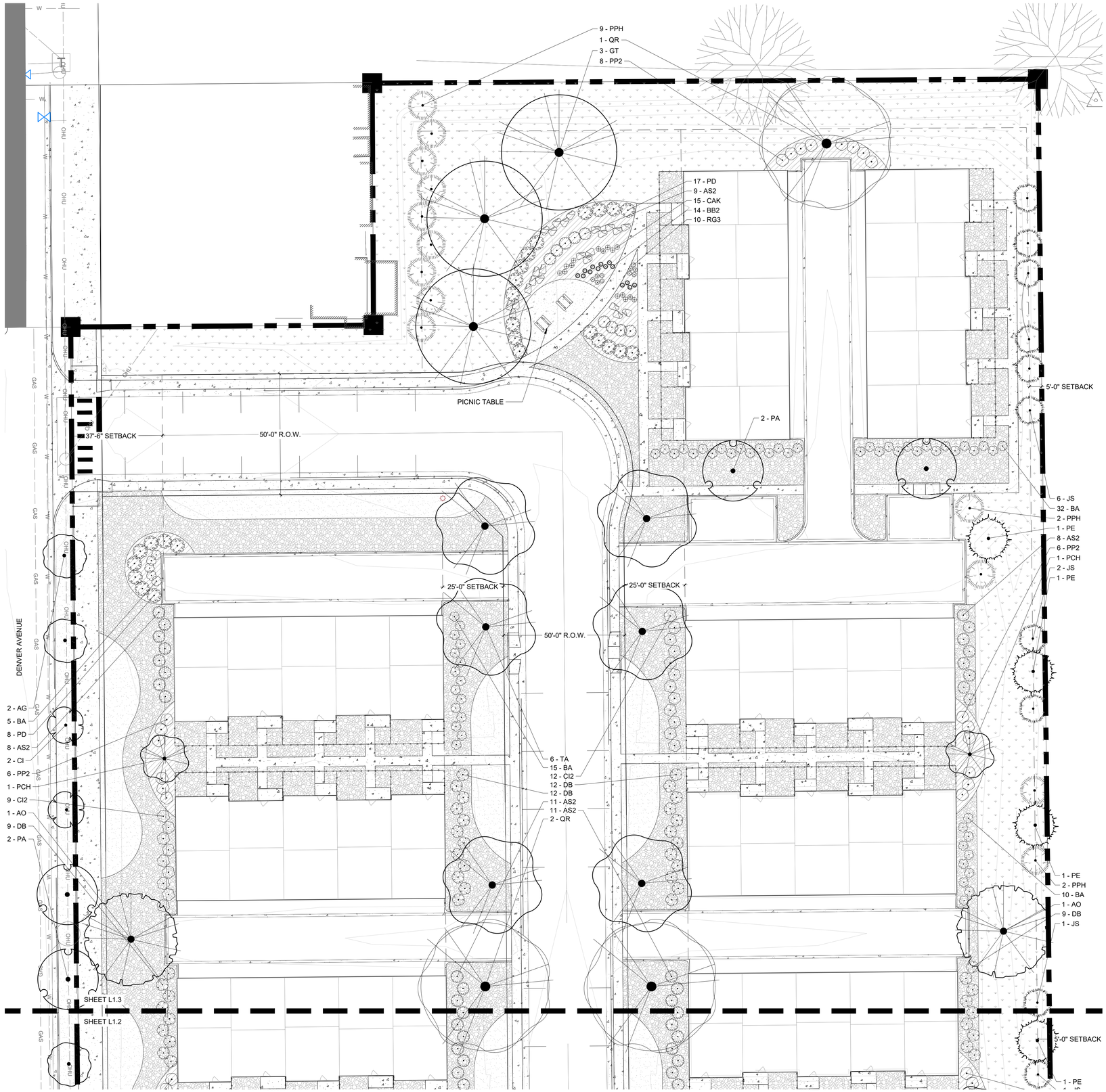
ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

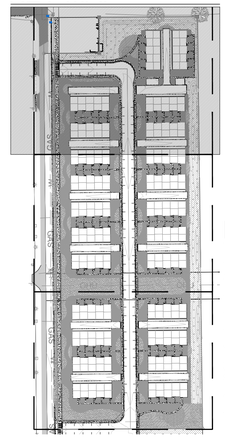
DRAWING NUMBER:

L1.2 OF 5

Plotted By: Ngoc Vu **Layout:** L2.2 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg



KEY MAP



LANDSCAPE LEGEND

SYMBOL	DESCRIPTION
	CONCRETE
	02 LANDSCAPE MATERIAL
SYMBOL	DESCRIPTION
	WOOD MULCH
	IRRIGATED TURF
	ROCK MULCH
	NATIVE GRASS AREA
	CRUSHER FINES
	ENGINEERED WOOD FIBER SURFACI

PLANT SCHEDULE

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ORIGINAL SIZE 24X36

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LANDSCAPE PLAN ENLARGEMENT

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	NV
REVIEWED BY:	KT

DRAWING NUMBER:

L1.3 OF 5

Plotted By: Ngoc Vu **Layout:** L2.3 Landscape Plan Enlargement **Printed On:** 4/22/2022 9:37 AM **File Name:** L2.0 Landscape Plan.dwg

GENERAL LANDSCAPE NOTES

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE - FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT.

2. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE CITY WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.

3. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

4. SOIL AMENDMENTS: SOIL AMENDMENTS SHALL BE PROVIDED AND DOCUMENTED IN ACCORDANCE WITH CITY CODE SECTION 12-132. THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, A WRITTEN CERTIFICATION MUST BE SUBMITTED TO THE CITY THAT ALL PLANTED AREAS, OR AREAS TO BE PLANTED, HAVE BEEN THOROUGHLY LOOSENED AND THE SOIL AMENDED, CONSISTENT WITH THE REQUIREMENTS SET FORTH IN SECTION 12-132.

5. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.

6. MAINTENANCE: TREES AND VEGETATION, IRRIGATION SYSTEMS, FENCES, WALLS AND OTHER LANDSCAPE ELEMENTS WITH THESE FINAL PLANS SHALL BE CONSIDERED AS ELEMENTS OF THE PROJECT IN THE SAME MANNER AS PARKING, BUILDING MATERIALS AND OTHER SITE DETAILS. THE APPLICANT, LANDOWNER OR SUCCESSORS IN INTEREST SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL LANDSCAPING ELEMENTS IN GOOD CONDITION. ALL LANDSCAPING SHALL BE MAINTAINED FREE FROM DISEASE, PESTS, WEEDS AND LITTER, AND ALL LANDSCAPE STRUCTURES SUCH AS FENCES AND WALLS SHALL BE REPAIRED AND REPLACED PERIODICALLY TO MAINTAIN A STRUCTURALLY SOUND CONDITION.

7. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.

8. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:
   - 10 FEET BETWEEN TREES AND FIRE HYDRANTS AND OVERHEAD UTILITY POLES.
   - 10 FEET BETWEEN TREES AND ANY UNDERGROUND UTILITIES.
   - 30 FEET BETWEEN TREES AND STREET INTERSECTIONS

9. ALL STREET TREES SHALL BE PLACED A MINIMUM EIGHT (8) FEET AWAY FROM THE EDGES OF DRIVEWAYS AND ALLEYS.

10. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT LUPTON.

11. THE FINAL LANDSCAPE PLAN SHALL BE COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE

12. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION – AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED.

13. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES.

14. IRRIGATED TURF SHALL BE TEXAS BLUEGRASS/KENTUCKY BLUEGRASS HYBRID REVEILLE OR APPROVED EQUAL.

15. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL BE 18" X 4" ROLLED TOP STEEL SET LEVEL WITH TOP OF SOD OR APPROVED EQUAL.

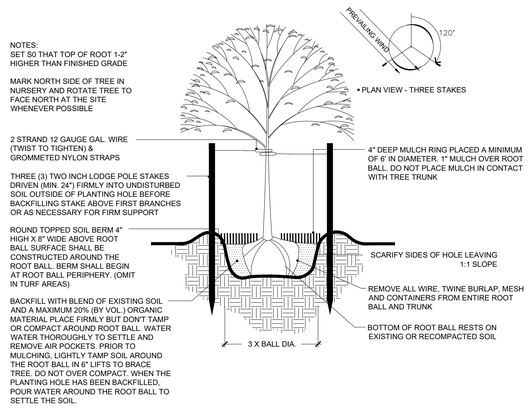
16. STRAW / COCONUT SOIL RETENTION BLANKET SHALL BE APPLIED TO ALL SEEDED AREAS ON SLOPES GREATER THAN 3:1.

17. ONLY SMALL TREES SHALL BE USED WHEN PLANTING UNDER OR WITHIN 10 LATERAL FEET OF OVERHEAD UTILITY WIRES.

18. ONLY SMALL TREES SHALL BE PLANTED OVER OR WITHIN 10 10 LATERAL FEET FROM ANY UNDERGROUND UTILITIES.

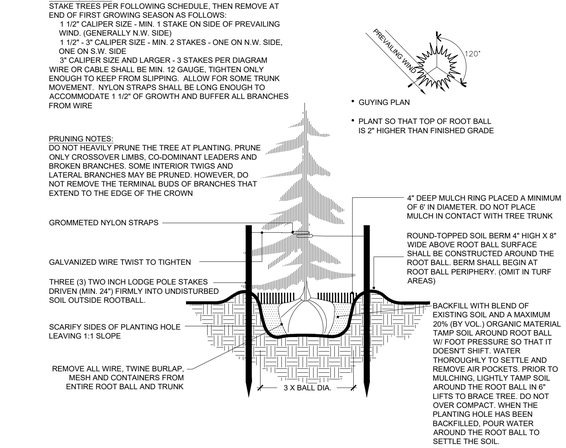
WATER USE TABLE

HYDROZONE	AREA (SF)	WATER NEEDED (GALLONS/SF)	ANNUAL WATER USE (GALLONS)
MODERATE	28022	10	280,220.00
LOW	82495	3	247485.00
VERY LOW	169064	0	0.00
TOTAL	279,581	1.8875	527,705
ANNUAL WATER USE NOT TO EXCEED 15 GAL./SF. AVERAGE OVER THE SITE			



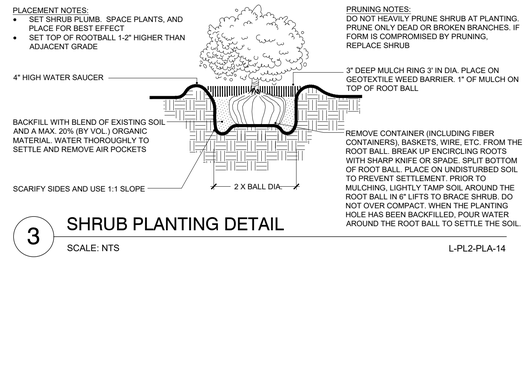
1 TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-02



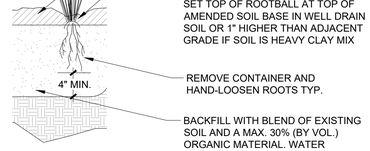
2 CONIFER TREE PLANTING DETAIL - WOOD POSTS

SCALE: NTS L-PL2-PLA-16



3 SHRUB PLANTING DETAIL

SCALE: NTS L-PL2-PLA-14



4 ORNAMENTAL GRASS DETAIL

NO SCALE L-PL2-PLA-19

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FORT LUPTON, CO

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ORIGINAL SIZE 24X36

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NOTES & DETAILS

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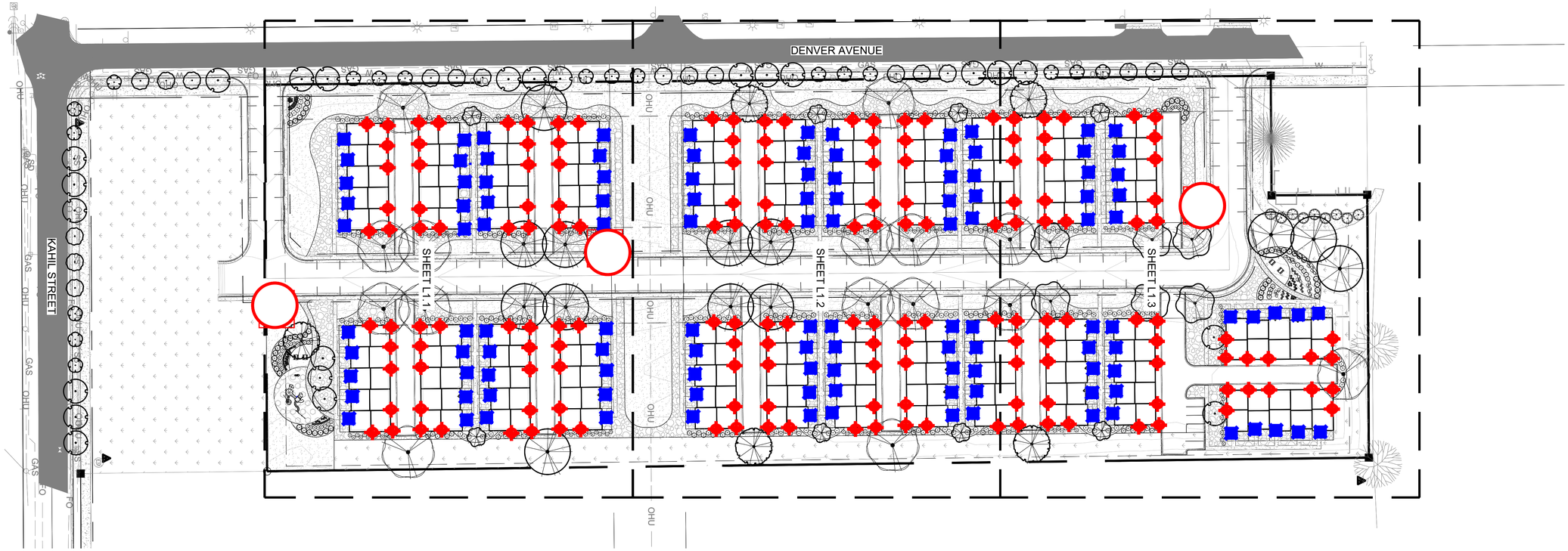
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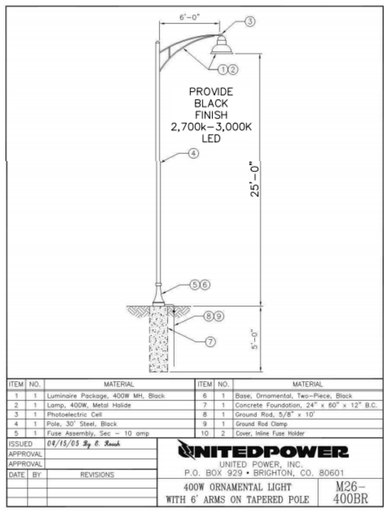
DRAWING NUMBER:

L2.0 OF 5

Plotted By: Ngoc Vu **Layout:** Notes & Details **Printed On:** 4/22/2022 9:37 AM **File Name:** L3.0 Notes & Details.dwg



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec - 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: B. Kmak
APPROVAL	
APPROVAL	
DATE / BY	REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26-400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

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SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	



ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



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LIGHTING PLAN

SEAL:

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PROJECT No.:	R21-050
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REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

April 22, 2022

Public Works Director
City of Fort Lupton Public Works
130 S McKinley Avenue
Fort Lupton, CO 80621

RE: Final Drainage Analysis
The Flats at Lupton Village, Fort Lupton, Colorado

To whom it may concern:

LandOne has completed an analysis of the drainage design for The Flats at Lupton Village, Fort Lupton, Colorado (See Exhibit A), to determine if the site's proposed design flow is less than that of the assumed design flow from the "Kahil Storm Project" completed by the City of Fort Lupton in January of 2020.

An analysis of the original storm drainage system design provided by the City of Fort Lupton (See Exhibit F) found that the site falls within Basin N1 from the "Kahil Storm Project". The site was divided into subbasins (See Exhibit E). The On-site Basin includes to the east edge of the Denver Avenue east sidewalk. The Commercial Site Basin includes to the Center of South Denver Avenue to the west and to the Center of Weld County Road 12 to the south. The Denver Avenue Basin flows north, matching the existing condition, and as a result is not included in the contributing flow to the storm system. The offsite basin is the portion of railroad right-of-way directly east of the proposed site. In the existing condition, the offsite basin flows from south to north, this existing condition will be maintained, so flow from the offsite basin will not contribute to the existing storm system.

The assumed overall flow contributing to the existing storm drainage system from Basin N1 in the major event (100-yr) is 40.3 cfs according to the "Kahil Storm Project". The proposed design flow for the three proposed basins using the rational calculation (See Exhibit B) was calculated to be 39.03 cfs (The summation of the onsite basins). As the total design flow for the proposed site is less than that of the assumed design flow from Basin N1 of the "Kahil Storm Project", the downstream infrastructure will be sufficient for the proposed design and on-site detention will not be required.

The street capacity for the roads interior to the site was analyzed and determined to be 2.4 cfs in the minor event and 261 cfs in the major event (Reference Exhibit C). Since none of the on-site basins exceed these amounts, the street capacity is sufficient for the calculated design flows interior to the townhome project (Reference Exhibit B).

The flow from Basins A, C, E, H, I, and L will be captured in 12" Nyloplast inlets. An inlet analysis has been completed for the 12" Nyloplast Inlets, specifically the inlets capturing Basins A and L as Basins A and L generate the most flow in the 100-yr event (0.3cfs). A 12" Nyloplast inlet is capable of accepting approximately 1.32 cfs with 1' of head (Reference Exhibit D), therefore a 12" Nyloplast inlet is acceptable at the six proposed locations.

The flow from Basins D, F, J and K will be captured in Single Type R inlets (4” Curb). An inlet analysis has been completed for the Single Type R inlets (4” Curb), specifically the inlet capturing Basin F was analyzed as Basin F generates the most flow (1.88 cfs in the minor event, and 6.03 cfs in the major event). A single Type R inlet with 4” curb is capable of accepting approximately 1.91 cfs in the minor event, and 15.74 cfs in the major event (Reference Exhibit D), therefore a single Type R inlet is acceptable at the four proposed locations.

The flow from Basins B and G will be captured in Double Type R Inlets (4” Curb). An inlet analysis has been completed for the double Type R Inlets (4” Curb), specifically the inlet capturing Basin G was analyzed as Basin G generates the most flow (2.22 cfs in the minor event, and 6.41 cfs in the major event). A double Type R Inlet with 4” curb is capable of accepting approximately 3.13 cfs in the minor event, and 32.79 cfs in the major event (Reference Exhibit D), therefore a double Type R Inlet is acceptable at the two proposed locations.

The flow from Basin CR12 will be captured in a Single Type R Inlet (6” Curb). An inlet analysis has been completed for the Single Type R Inlet (6” Curb), Basin CR12 generates 0.90 cfs in the minor event, and 2.45 cfs in the major event. A Single Type R Inlet with 6” curb is capable of accepting approximately 5.38 cfs in the minor event, and 14.95 cfs in the major event (Reference Exhibit D), therefore a single Type R Inlet is acceptable at the proposed location in CR12. Ultimately all flow will be conveyed via proposed storm system to the existing storm infrastructure southwest of the site.

Based on the calculations, additional detention will not be required on site. The design flow from the proposed site will be less than the assumed flow from the Kahil Storm Project, and therefore the proposed storm design is acceptable.

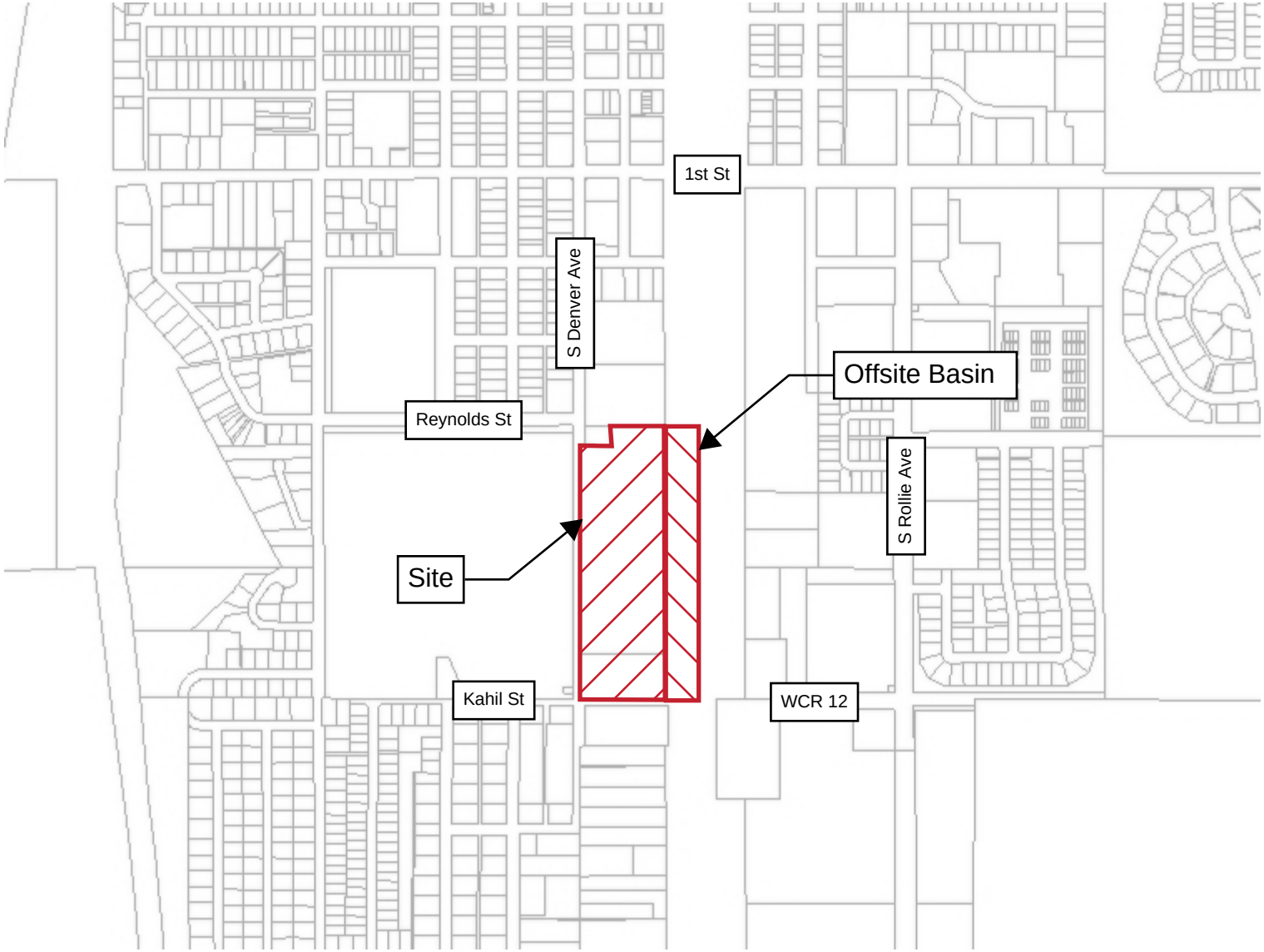
The following information is provided for reference:

- Exhibit A – Vicinity Map
- Exhibit B – Rational Calculations
- Exhibit C – Street Capacity Analysis
- Exhibit D (4 pages) – Inlet Analysis
- Exhibit E – Drainage Basins
- Exhibit F – Excerpts from “Kahil Storm Project”

If you have any questions or need additional information, please contact me.

Sincerely,
LandOne Engineering, LLC

Jeremy Goetsch, PE
Project Engineer
Enclosures



The Flats at Lupton Village

Exhibit A - Vicinity Map

LANDONE engineering
970-632-2311

Calculation of Peak Runoff using Rational Method

Designer: SB
Company: Landone
Date: 4/18/2022
Project: The Flats at Lupton Townhomes 21-031
Location: Fort Lupton, CO

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_i^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{minimum} = 5$ (urban)
$t_{minimum} = 10$ (non-urban)

Selected $t_c = \max(t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c))$

Select UDFCD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

1-hour rainfall depth, P1 (in) =	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
	0.83	1.11	1.38	1.82	2.21	2.64	3.83

Rainfall Intensity Equation Coefficients =	a	b	c
	28.50	10.00	0.786

$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$

$Q(cfs) = CIA$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time					Channelized (Travel) Flow Time							Time of Concentration			Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)	Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
Basin A	0.51	A	4.0	0.01	0.01	0.02	0.02	0.06	0.14	0.28	300.00			0.007	38.20	162.00			0.007	15	1.25	2.15	40.35	28.70	28.70	1.34	1.79	2.22	2.93	3.56	4.25	6.17	0.01	0.01	0.02	0.04	0.11	0.30	0.88
Basin B	1.43	A	76.0	0.59	0.61	0.62	0.65	0.67	0.70	0.74	300.00			0.005	19.39	150.00			0.005	20	1.41	1.77	21.16	14.88	14.88	1.89	2.53	3.14	4.15	5.04	6.02	8.73	1.58	2.19	2.79	3.84	4.84	6.03	9.27
Basin C	0.12	A	16.0	0.08	0.08	0.09	0.11	0.16	0.23	0.36	130.00			0.010	20.93	0.00			0.010	15	1.50	0.00	20.93	23.28	20.93	1.59	2.13	2.65	3.49	4.24	5.07	7.35	0.02	0.02	0.03	0.05	0.08	0.15	0.32
Basin D	1.07	A	65.0	0.48	0.50	0.51	0.54	0.58	0.62	0.67	300.00			0.005	23.71	80.00			0.005	20	1.41	0.94	24.65	15.99	15.99	1.83	2.44	3.04	4.01	4.87	5.81	8.43	0.93	1.30	1.67	2.33	3.01	3.83	6.06
Basin E	0.30	A	9.0	0.04	0.04	0.04	0.06	0.10	0.18	0.31	150.00			0.010	23.44	0.00			0.010	15	1.50	0.00	23.44	24.47	23.44	1.50	2.00	2.49	3.29	3.99	4.77	6.92	0.02	0.02	0.03	0.06	0.12	0.26	0.65
Basin F	2.24	A	54.0	0.38	0.39	0.41	0.44	0.49	0.53	0.60	300.00			0.005	27.82	285.00			0.005	20	1.41	3.36	31.18	20.88	20.88	1.59	2.13	2.65	3.50	4.25	5.08	7.37	1.34	1.88	2.43	3.47	4.63	6.03	9.94
Basin G	1.76	A	68.0	0.51	0.53	0.54	0.57	0.61	0.64	0.69	300.00			0.005	22.55	175.00			0.005	20	1.41	2.06	24.61	16.67	16.67	1.79	2.40	2.98	3.93	4.77	5.70	8.26	1.60	2.22	2.84	3.96	5.08	6.41	10.07
Basin H	0.29	A	5.0	0.02	0.02	0.02	0.03	0.07	0.15	0.29	190.00			0.010	26.91	0.00			0.010	15	1.50	0.00	26.91	25.15	25.15	1.44	1.93	2.40	3.16	3.84	4.59	6.65	0.01	0.01	0.02	0.03	0.08	0.20	0.55
Basin I	0.19	A	2.0	0.01	0.01	0.01	0.01	0.04	0.13	0.27	190.00			0.010	27.23	0.00			0.010	15	1.50	0.00	27.23	25.66	25.66	1.42	1.91	2.37	3.13	3.80	4.53	6.58	0.00	0.00	0.00	0.01	0.03	0.11	0.33
Basin J	1.12	A	58.0	0.41	0.43	0.45	0.48	0.52	0.56	0.63	247.00			0.010	19.02	0.00			0.010	20	2.00	0.00	19.02	16.14	16.14	1.82	2.43	3.02	3.99	4.84	5.79	8.40	0.84	1.17	1.51	2.14	2.83	3.64	5.91
Basin K	0.70	A	65.0	0.48	0.50	0.51	0.54	0.58	0.62	0.67	250.00			0.005	21.64	0.00			0.005	20	1.41	0.00	21.64	14.95	14.95	1.88	2.52	3.14	4.14	5.03	6.00	8.71	0.63	0.88	1.13	1.58	2.05	2.60	4.11
Basin L	0.38	A	8.0	0.03	0.03	0.04	0.05	0.09	0.17	0.31	170.00			0.010	25.09	0.00			0.010	15	1.50	0.00	25.09	24.64	24.64	1.46	1.95	2.42	3.20	3.88	4.64	6.73	0.02	0.03	0.04	0.06	0.14	0.30	0.78
Commercial Basin	1.52	A	80.0	0.63	0.65	0.66	0.69	0.71	0.73	0.77	300.00			0.005	17.78	200.00			0.005	20	1.41	2.36	20.14	14.73	14.73	1.90	2.54	3.16	4.17	5.06	6.04	8.77	1.81	2.50	3.18	4.35	5.44	6.72	10.24
CR12 Basin	0.57	A	78.0	0.61	0.63	0.64	0.67	0.69	0.72	0.76	300.00			0.003	22.00	150.00			0.003	20	1.10	2.28	24.29	15.03	15.03	1.88	2.52	3.13	4.13	5.01	5.99	8.69	0.65	0.90	1.15	1.57	1.97	2.45	3.75

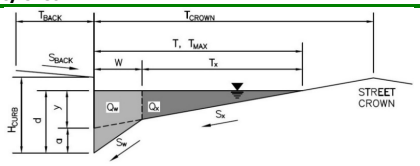
MHFD-Inlet, Version 5.01 (April 2021)

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **The Flats at Lupton Village**

Inlet ID: **Interior Street Capacity Check**



Gutter Geometry:			
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	20.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.050	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.012	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.005	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	18.0	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☑	

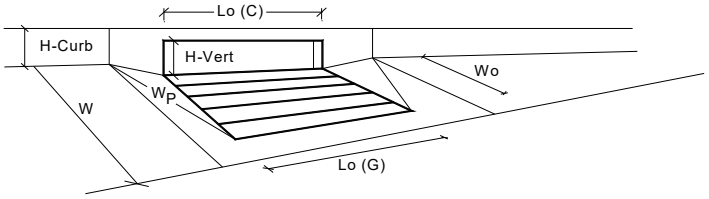
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**2.4**	**261.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



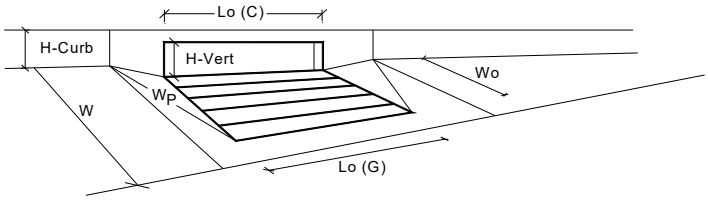
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.51	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.91**	**15.74**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.88	6.03	cfs

Note:

- A Single Type R Inlet will be installed to capture the flow in Basins D,F,J and K (See Exhibit E - Drainage Basins).
- Basin F represents the worst case scenario accepting 6.03 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin F is analyzed in the above inlet capacity chart.
- As a Single Type R Inlet is sufficient for the worst case scenario, it will be sufficient for all four proposed Single Type R Inlets.

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



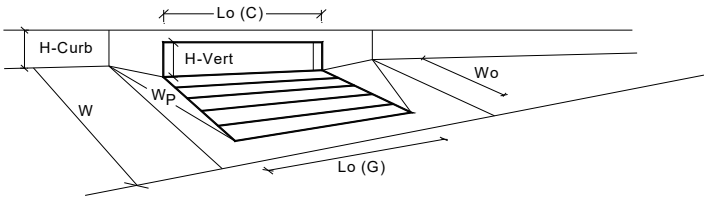
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.38	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.79	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**3.13**	**32.79**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.20	6.40	cfs

Note:

- A Double Type R Inlet will be installed to capture the flow in Basins B and G (See Exhibit E - Drainage Basins).
- Basin G represents the worst case scenario accepting 6.41 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin G is analyzed in the above inlet capacity chart.
- As a Double Type R Inlet is sufficient for the worst case scenario, it will be sufficient for both proposed Double Type R Inlets.

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)

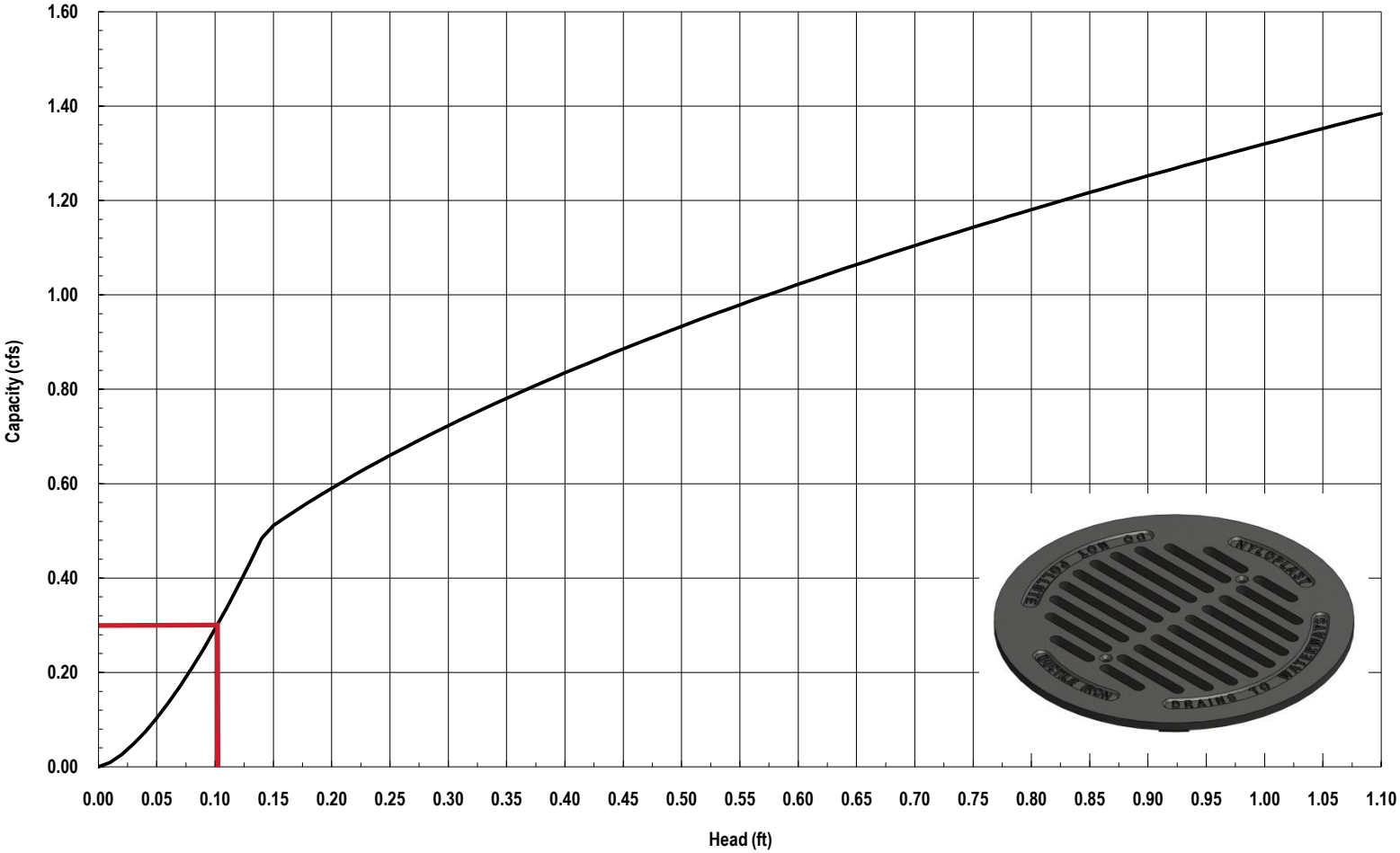


Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	18.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	1.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.38**	**14.95**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.90	2.45	cfs

Note:

- A Single Type R Inlet will be installed to capture the flow in Basin CR12 (See Exhibit E - Drainage Basins).
- Basin CR12 accepts 2.45 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basin CR12 is analyzed in the above inlet capacity chart.
- A Single Type R Inlet is sufficient to accept flow from Basin CR12.

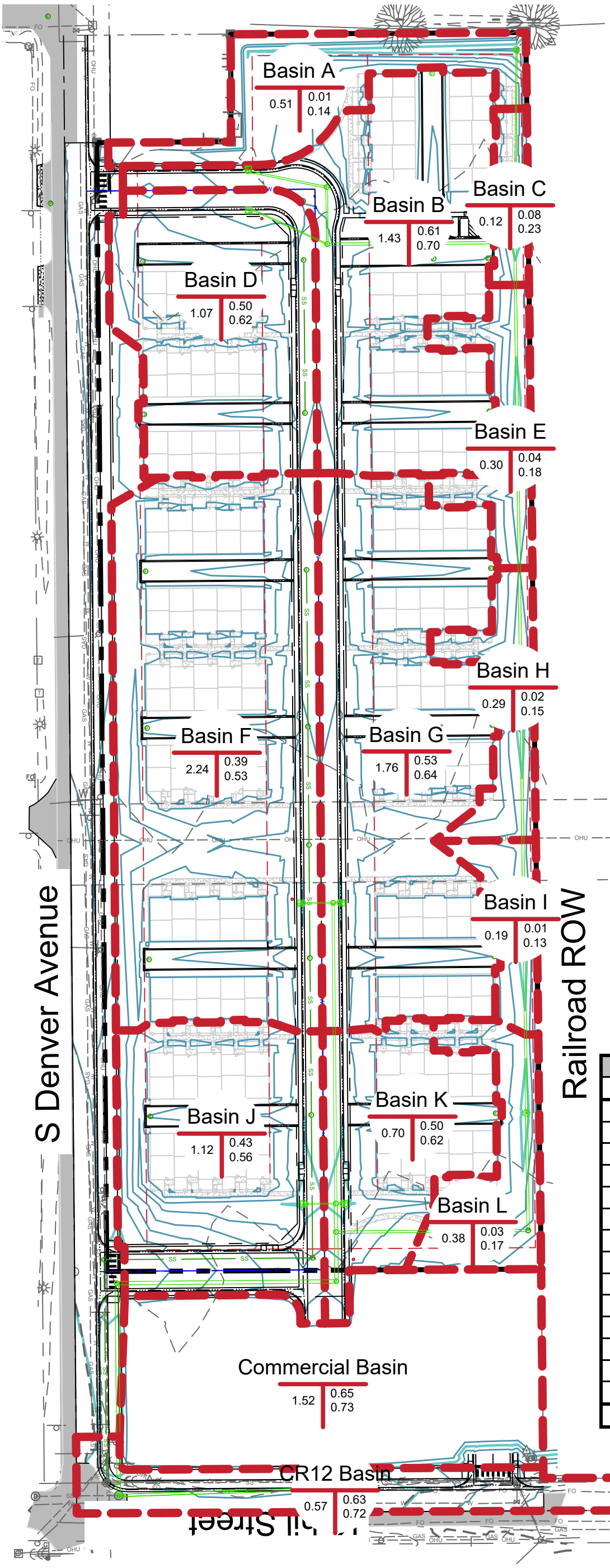
Nyloplast 12" Drop In Grate Inlet Capacity Chart

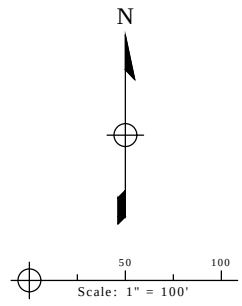


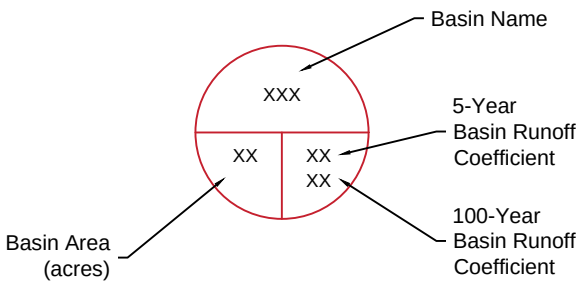
Note:

- A Nyloplast 12" Inlet will be installed to capture the flow in Basins A, C, E, H, I, and L (See Exhibit E - Drainage Basins).
- Basins A and L represent the worst case scenario, both accepting 0.3 cfs in the 100-yr event (See Exhibit B - Rational Calculations).
  - Basins A and L are represented on the above chart, a Nyloplast 12" Inlet can accept 0.3 cfs with approximately 0.11' of head.
- As a Nyloplast 12" Inlet is sufficient for the worst case scenarios, it will be sufficient for all six proposed Nyloplast 12" Inlets.

The Flats at Lupton Village	**Exhibit D (Page 4 of 4) - Inlet Capacity Nyloplast 12" Inlet**	LAND ONE engineering 970-632-2311







Peak Flow Analysis On-Site (cfs)		
Basin	Minor Event (5-yr)	Major Event (100-yr)
A	0.01	0.30
B	2.19	6.03
C	0.02	0.15
D	1.30	3.83
E	0.02	0.26
F	1.88	6.03
G	2.22	6.41
H	0.01	0.20
I	0.00	0.11
J	1.17	3.64
K	0.88	2.60
L	0.03	0.30
Commercial Basin	2.50	6.72
CR12 Basin	0.90	2.45
Proposed Total	13.13	39.03

The Flats at Lupton Village

Exhibit E - Drainage Basins

LAND ONE engineering
970-632-2311

STORM DRAINAGE SYSTEM DESIGN (RATIONAL METHOD PROCEDURE)

Project:
Date: 28-Jan-20
Design Storm: 100-YR

Project Name Kahil West Extension

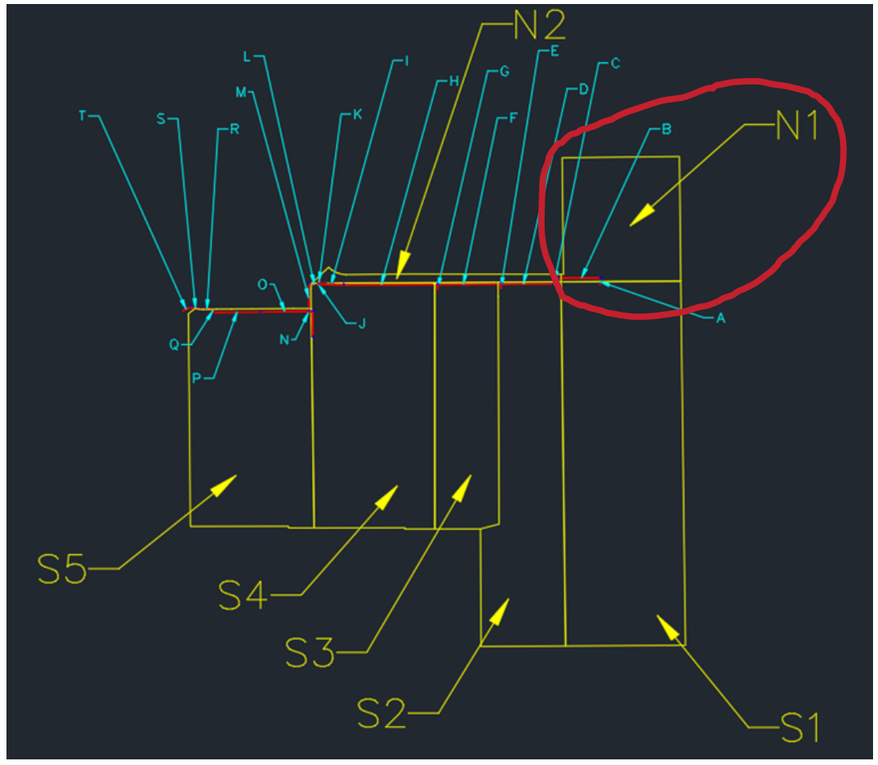
a=
b=
m=

IDF Eq I = a/(t+b)^m

Calculated By: MP
Checked By:

DESIGN CONDITIONS (100-YR)

		DIRECT RUNOFF							PIPE/CHANNEL			TRAVEL TIME				TOTAL RUNOFF			
DESIGN POINT	PIPE	BASIN	AREA (AC)	RUNOFF COEFFICIENT	t_c (MIN)	C x A (AC)	I (IN/HR)	Q (CFS)	DESIGN FLOW (CFS)	SLOPE (%)	CHANNEL WIDTH / PIPE SIZE (IN)	LENGTH (FT)	V (FPS)	t_t (MIN)	FULLNESS OF PIPE (%)	t_c (MIN)	Σ (C x A) (AC)	I (IN/HR)	Q (CFS)
	A	PREEXIST	0.39	0.76	5.0	0.30	8.73			0.2	18	40.52	3.1	0.2	48.2	5.2	0.30	8.65	2.6
	B	N1	9.57	0.72	15.1	6.91	5.83	40.3	40.3	0.7	36	182.34	10.0	0.3	55.5	15.4	6.91	5.79	40.0
	C	S1	28.19	0.60	23.0	17.00	4.89			3.5	30	43.71	17.3	0.0	94.0	23.0	17.00	4.88	83.0
	D								125.6	1.0	42	72.35	13.4	0.1	94.0	23.1	23.61	4.87	115.0
	F								115.0	0.4	48	289.82	9.4	0.5	94.0	23.6	23.61	4.81	113.5
	G	S2	16.84	0.54	18.9	9.02	5.37	48.4	48.4	2.84	24	54.29	10.1	0.1	94.0	19.0	9.02	5.36	48.3
	H								161.9	0.3	54	367.64	10.3	0.6	74.3	24.2	32.63	4.74	154.6
	I	S3	10.27	0.62	17.5	6.39	5.54	35.4	35.4	1.5	24	28.20	11.6	0.0	94.0	17.5	6.39	5.54	35.4
	J								154.6	0.6	60	468.28	9.6	0.8	76.5	25.0	32.63	4.64	151.4
	K								151.4	0.5	60	119.37	9.4	0.2	76.5	25.2	32.63	4.61	150.5
	L	S4.1	0.23	0.90	13.5	0.21	6.19	1.3	1.3	4.8	18	28.78	7.0	0.1	16.2	13.5	0.21	6.17	1.3
	M	N2	1.36	0.65	12.3	0.89	6.45	5.7	5.7	5.4	18	9.55	11.3	0.0	32.8	12.3	0.89	6.45	5.7
	N								157.5	0.4	60	64.43	9.8	0.1	76.5	25.3	33.72	4.60	155.1
	O								155.1	0.5	60	163.00	10.5	0.3	70.3	25.6	33.72	4.57	154.1
	O.1	S4	19.41	0.62	17.2	12.02	5.58	67.1	67.1	0.6	36	138.31	9.7	0.2	94.0	17.4	12.02	5.55	66.8
	O.2								66.8	0.6	36	18.25	9.7	0.0	94.0	17.4	12.02	5.55	66.7
	5.1	S5.1	1.86	0.66	16.0	1.23	5.73	7.1	7.1	20.4	18	21.23	19.3	0.0	26.2	16.0	1.23	5.62	6.9
	Q								227.7	0.4	66	218.71	9.8	0.4	94.0	26.0	46.98	4.52	212.5
	5.2	S5.2	4.75	0.66	17.8	3.16	5.51	17.4	17.4	22.2	18	21.36	25.6	0.0	40.9	17.8	3.16	5.51	17.4
	R								229.9	0.4	66	249.99	9.9	0.4	94.0	26.4	50.14	4.47	224.3
	5.3	S5.3	4.50	0.66	18.5	2.99	5.42	16.2	16.2	24.1	18	20.84	25.8	0.0	38.5	18.5	2.99	5.42	16.2
	R.1								240.6	0.4	66	37.96	10.4	0.1	94.0	26.4	53.13	4.47	237.3
	5.4	S5.4	1.31	0.66	17.8	0.87	5.51	4.8	4.8	17.1	18	25.98	16.2	0.0	22.5	17.8	0.87	5.50	4.8
	S								242.1	0.4	66	17.65	10.5	0.0	94.0	26.4	54.00	4.47	241.4
	T								241.4	0.4	66	67.68	10.4	0.1	94.0	26.5	54.00	4.46	240.7
	U								240.7	0.4	66	57.70	10.4	0.1	94.0	26.6	54.00	4.45	240.1
	5.5	S5.5	2.53	0.66	13.7	1.68	5.30	8.9	8.9	8.6	18	38.26	15.1	0.0	36.9	13.7	1.68	6.13	10.3
	W								250.4	0.5	66	86.84	10.8	0.1	94.0	26.7	55.68	4.43	246.7



Flats at Lupton Village

NE Quadrant of Denver Avenue and Kahil Street
Fort Lupton, CO

Traffic Impact Study

KE Job #2022-018

Prepared for:

LandOne Engineering, LLC
361 71st Avenue, Suite 100
Greeley, CO 80634

Prepared by:

KELLAR ENGINEERING

skellar@kellarengineering.com
970.219.1602 phone



February 18, 2022

Sean K. Kellar, PE, PTOE

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1.0 Introduction

The purpose of this Traffic Impact Study (TIS) is to identify project traffic generation characteristics, to identify potential traffic related impacts on the adjacent street system, and to develop mitigation measures required for identified traffic impacts. This TIS is for the proposed Flats at Lupton Village project located at the northeast quadrant of Denver Avenue and Kahil Street in Fort Lupton, Colorado. See Figure 1: Vicinity Map.

Kellar Engineering LLC (KE) has prepared the TIS to document the results of the project's anticipated traffic conditions in accordance with the City of Fort Lupton's requirements and to identify projected impacts to the local and regional traffic system.

2.0 Existing Conditions and Roadway Network

The project site is located north of Kahil Street on the east side of Denver Avenue in Fort Lupton, CO. Denver Avenue is a 2 lane north-south collector street with a posted speed of 30 mph near the project site. Denver Avenue is classified as a retail street in the Transportation Plan. Additionally, Kahil Street is an east-west 30 mph collector street south of the project site. Kahil Street is classified as an urban collector in the Transportation Plan. See Figure 2: Site Plan and Appendix B.

2.1 Existing Traffic Volumes

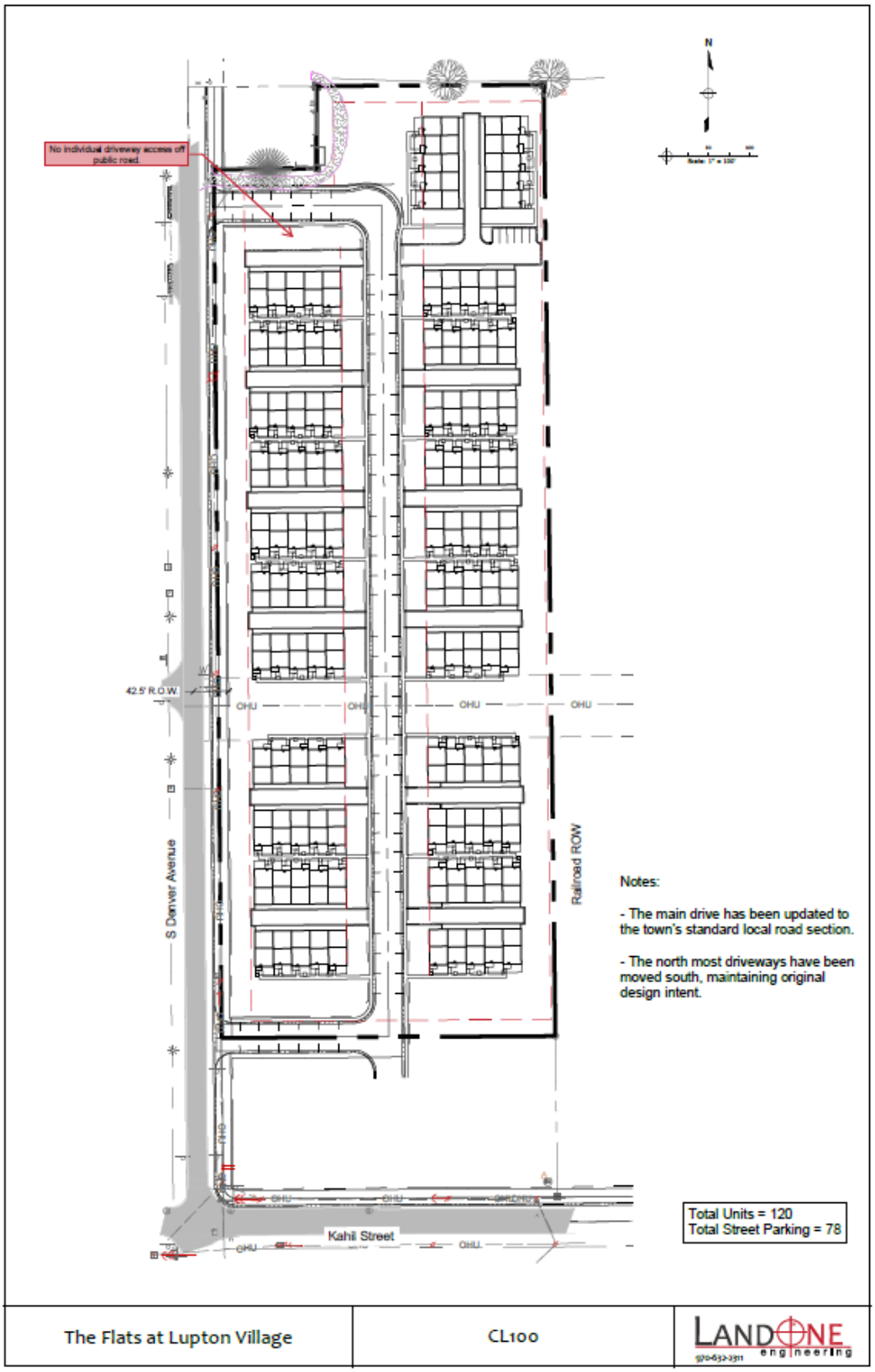
Existing peak hour traffic volume counts were conducted using data collection cameras on Thursday, January 27, 2022. The traffic counts were conducted to capture the peak hours of the adjacent street traffic. These turning movement counts are shown in Figure 3 with the count sheets provided in Appendix A.

Figure 1: Vicinity Map



Google Earth

Figure 2: Site Plan



3.0 Proposed Development

The proposed project consists of approximately 120 townhome dwelling units. See Table 1: Trip Generation and Figure 2: Site Plan.

4.1 Trip Generation

Site generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). ITE has established trip generation rates in nationwide studies of similar land uses. For this study, KE used the *ITE 10th Edition Trip Generation Manual* average trip rates. Since traffic on the adjacent streets and intersections is highest during the weekday peak hours, this study analyzed the weekday peak hour traffic. The proposed project is anticipated to generate approximately 878 daily weekday trips, 56 AM total peak hour trips, and 67 PM total peak hour trips. See Table 1: Trip Generation.

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, anticipated surrounding development areas, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site generated traffic that approaches the site from a given direction and departs the site back to the original source. Figure 6 illustrates the trip distribution used for the project's analysis.

4.3 Traffic Assignment

Traffic assignment was obtained by applying the trip distributions to the estimated trip generation of the development. Figures 7 shows the site generated peak hour traffic assignment.

4.4 Short Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the short range 2025 horizon. These background (2025) and short range (2025) total traffic volumes are shown in Figures 4 and 8. The short range analysis year 2025 includes the proposed development for this project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS).

4.5 Long Range Total Peak Hour Traffic

Site generated peak hour traffic volumes were added to the background traffic volumes to represent the estimated traffic conditions for the long range 2040 horizon. These background (2040) and long range (2040) total traffic volumes are shown in Figures 5 and 9. The long range analysis year 2040 includes the proposed development for the project plus project plus a 2% increase in background traffic per the CDOT Online Transportation Information System (OTIS).

5.0 Traffic Operation Analysis

KE's analysis of traffic operations in the site vicinity was conducted to determine the capacity at the identified intersection. The acknowledged source for determining overall capacity is the Highway Capacity Manual.

5.1 Analysis Methodology

Capacity analysis results are listed in terms of level of service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. LOS ranges from an A (very little delay) to an F (long delays). A description of the level of service (LOS) for signalized and unsignalized intersections from the Highway Capacity Manual are provided in Appendix E.

5.2 Intersection Operational Analysis

Operational analysis was performed for the short range 2025 horizon and the long range 2040 horizon. The calculations for this analysis are provided in Appendix E. Using the short range total traffic volumes, the project is projected to operate acceptably with all studied intersections and access points meeting the City's LOS criteria. See Table 4: 2025 Short Range Total Peak Hour Operation.

Table 1: Trip Generation (ITE Trip Generation, 10th Edition)

ITE Code	Land Use		Average Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
		Size	Rate	Total	Rate	% In	In	% Out	Out	Total	Rate	% In	In	% Out	Out	Total
220	Townhomes	120 DU	7.32	878	0.46	23%	13	77%	43	56	0.56	63%	42	37%	25	67
Total				**878**			**13**		**43**	**56**			**42**		**25**	**67**

DU = Dwelling Units

Figure 3: Recent Peak Hour Traffic

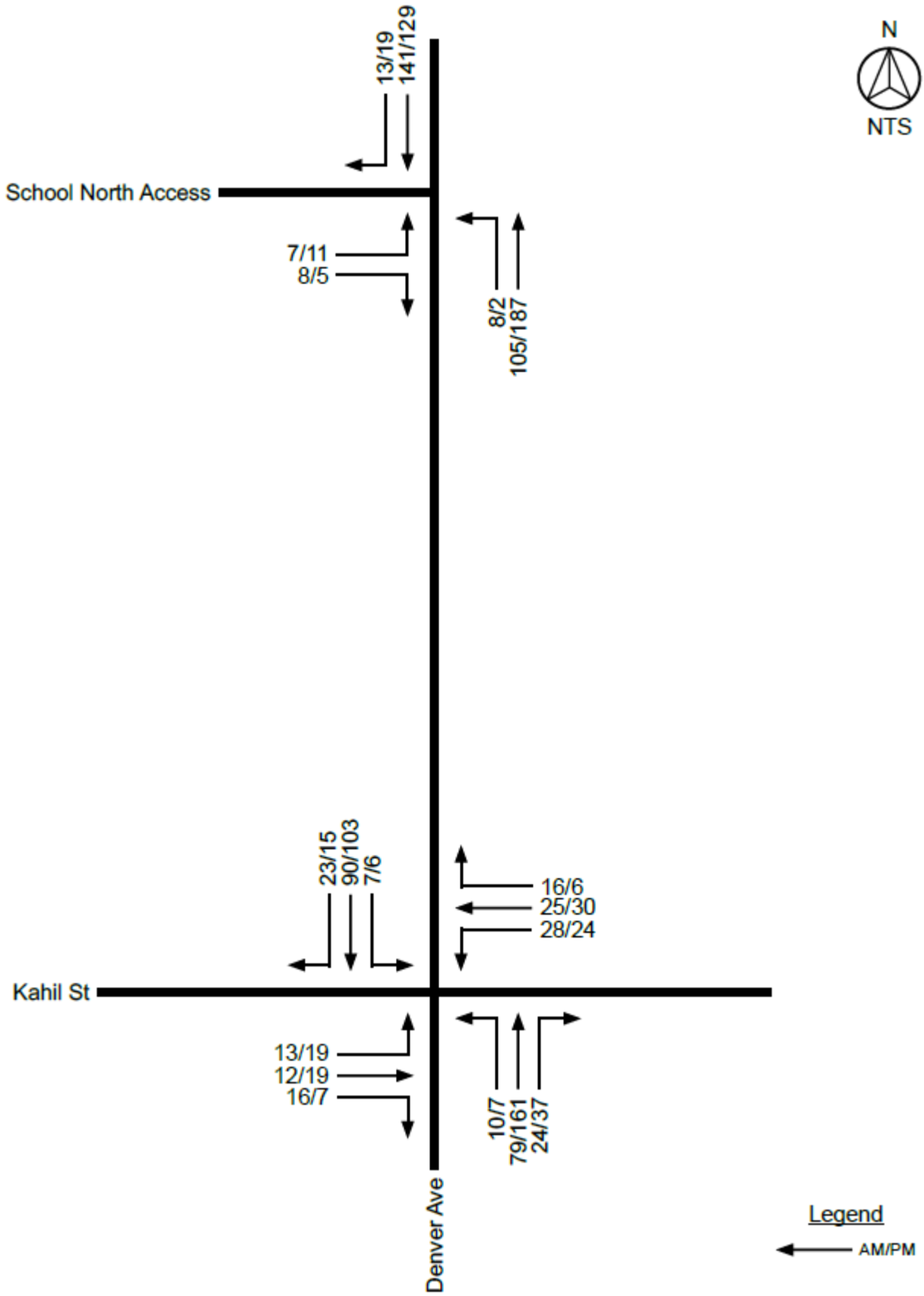


Figure 4: 2025 Background Traffic

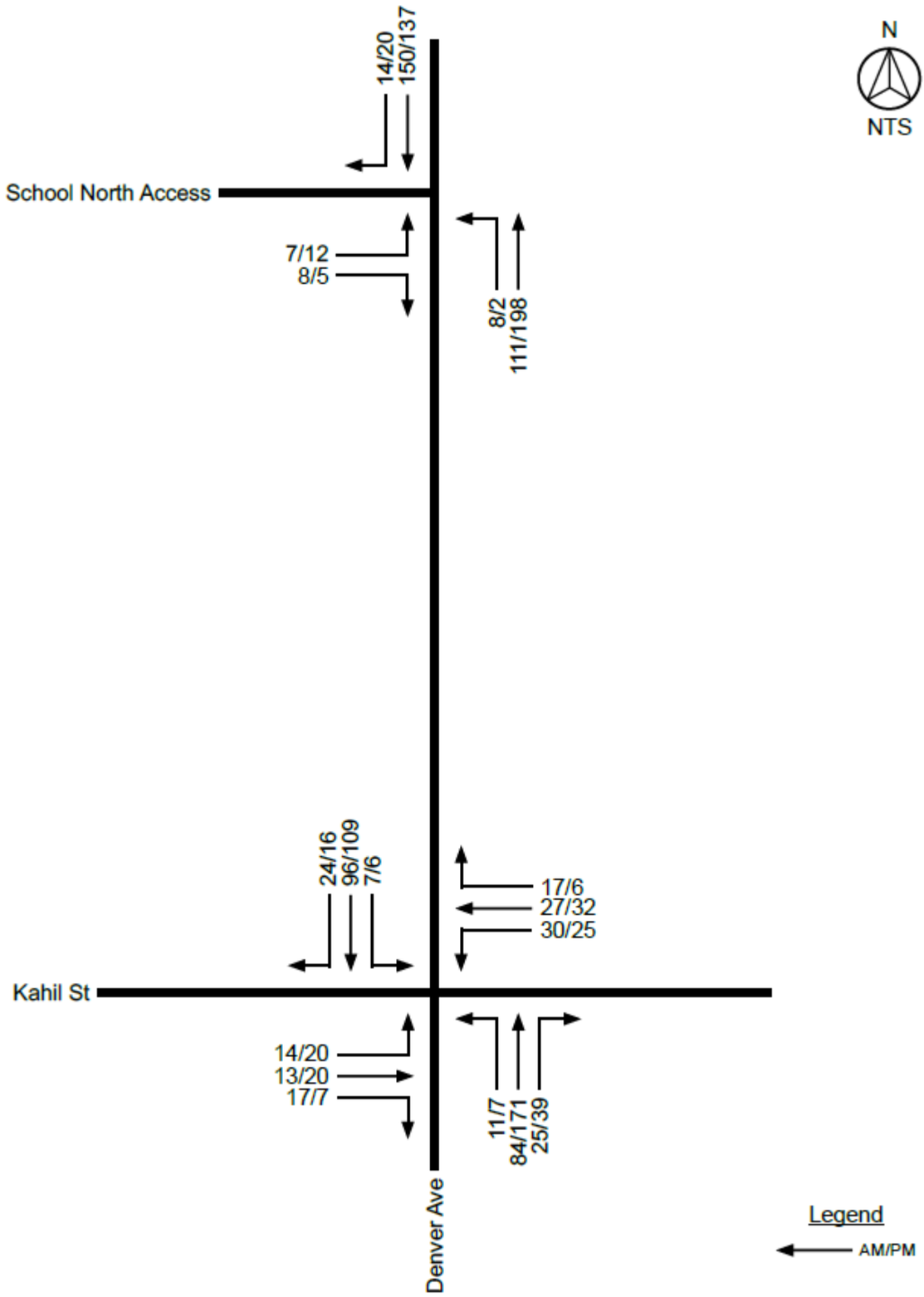


Figure 5: 2040 Background Traffic

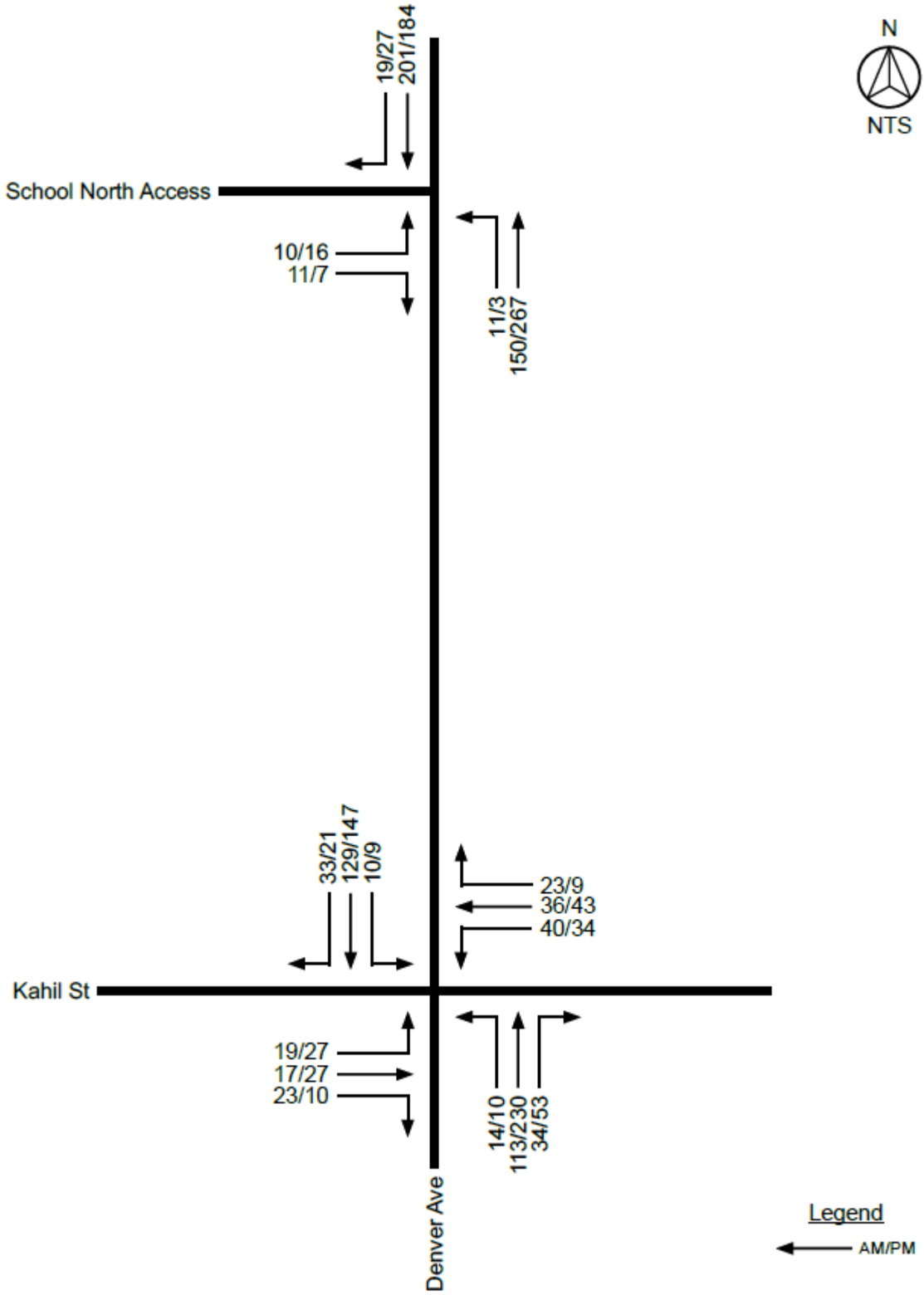


Figure 6: Trip Distribution

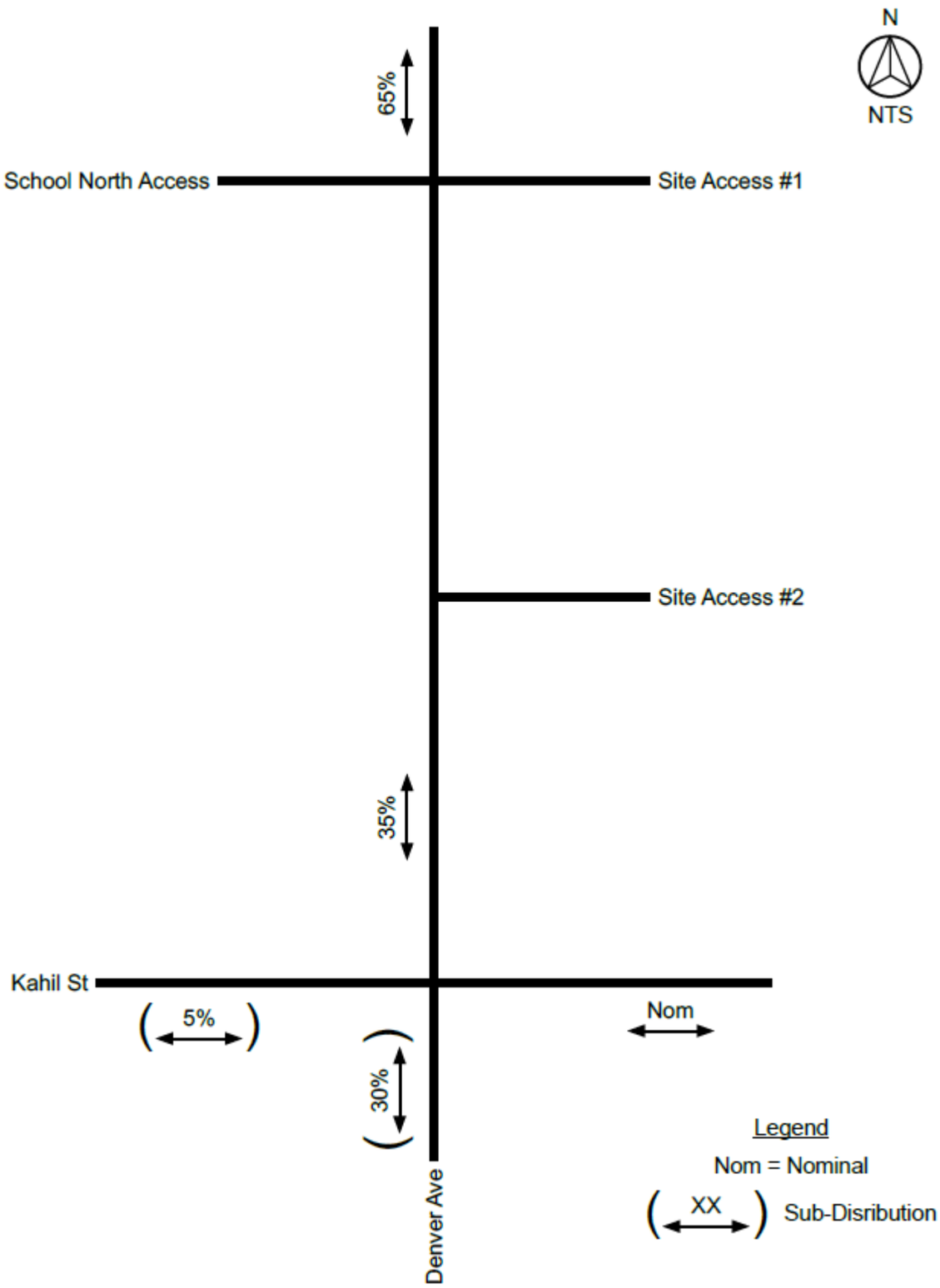


Figure 7: Site Generated Traffic

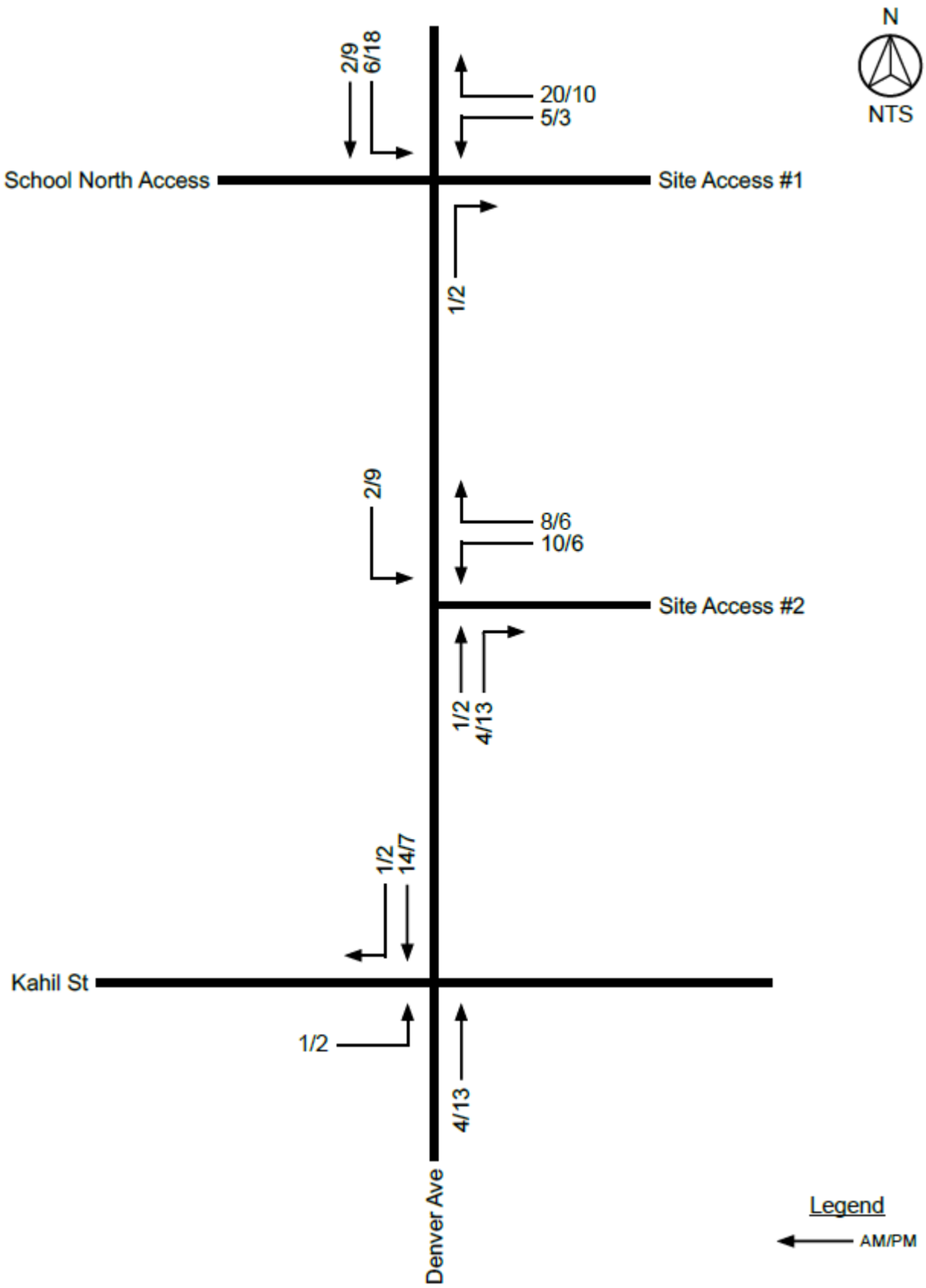


Figure 8: 2025 Short Range Total Traffic

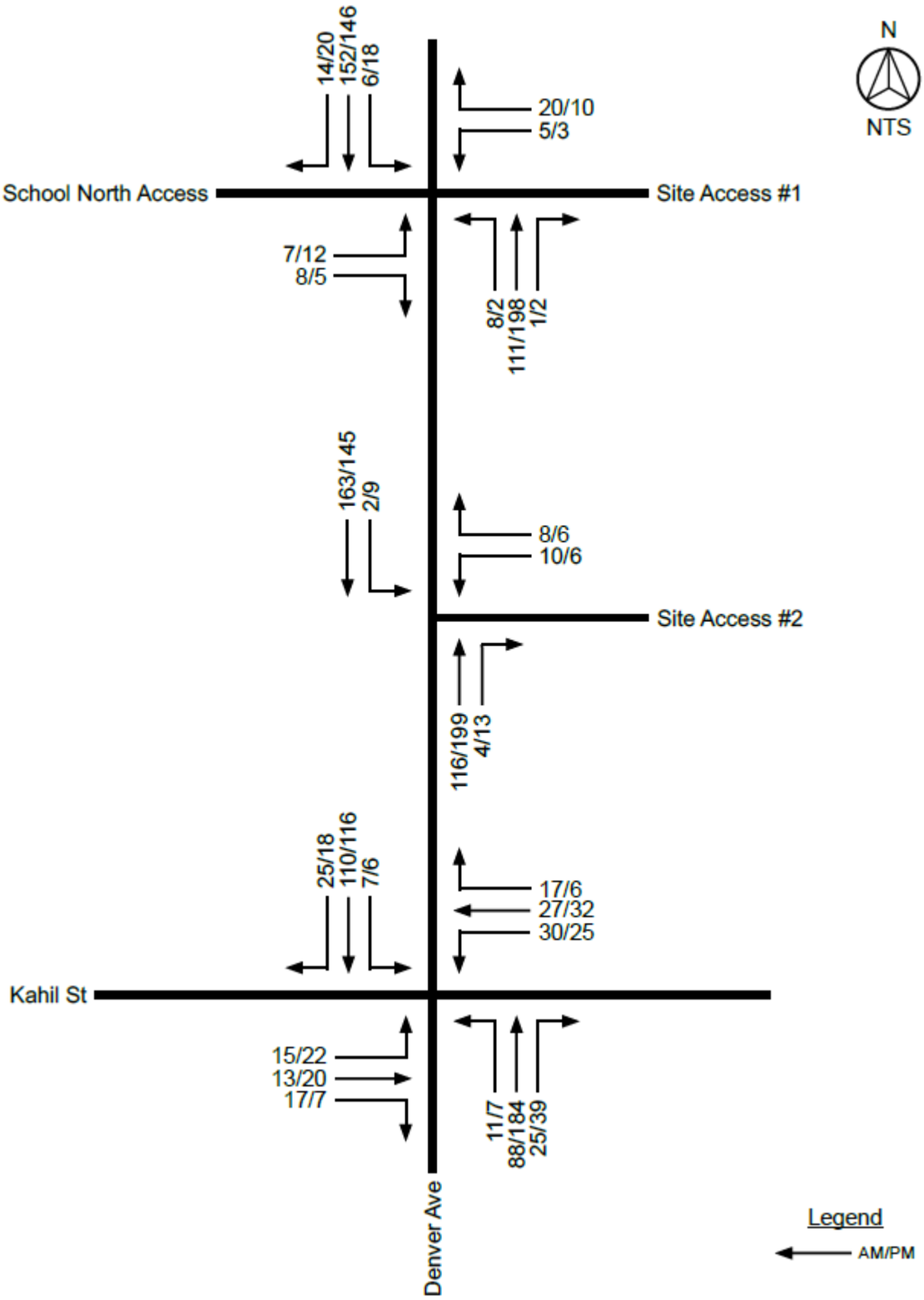


Figure 9: 2040 Long Range Total Traffic

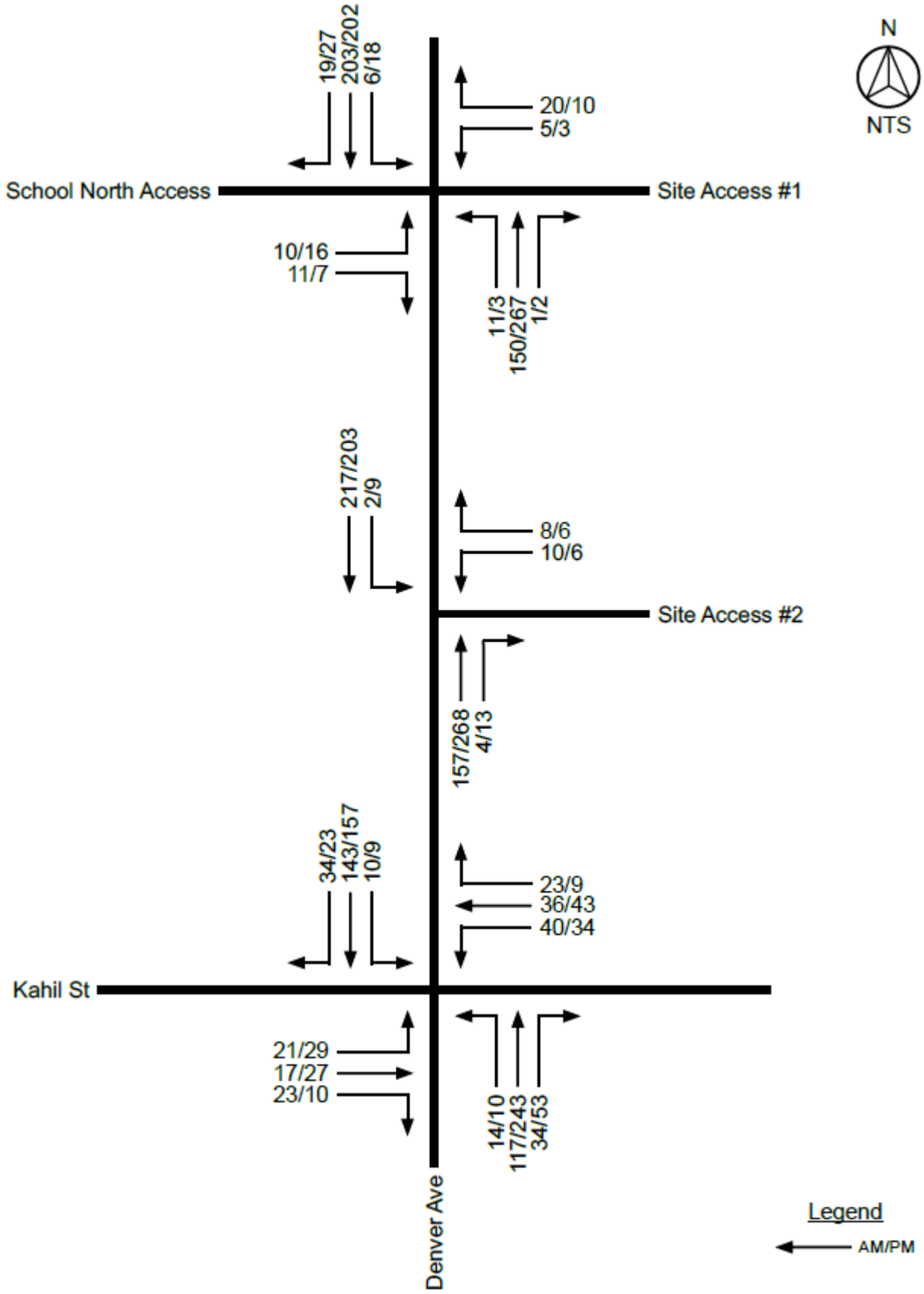


Table 2: Recent Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	A	B
	EB Approach	A	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 3: 2025 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	A	B
	EB Approach	A	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 4: 2025 Short Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access/Site Access #1			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	A	B
	WB Approach	A	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Site Access #2			
	WB Left	B	B
	WB Right	A	A
	WB Approach	A	B
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru	A	A
	SB Approach	A	A

Table 5: 2040 Background Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access			
	EB Left/Right	B	B
	EB Approach	B	B
	NB Left/Thru	A	A
	NB Approach	A	A
	SB Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Table 6: 2040 Long Range Total Peak Hour Operations

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/School North Access/Site Access #1			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	A	B
	WB Approach	A	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Kahill St			
	EB Left/Thru/Right	B	B
	EB Approach	B	B
	WB Left/Thru/Right	B	B
	WB Approach	B	B
	NB Left/Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru/Right	A	A
	SB Approach	A	A

Intersection	Movement	Level of Service (LOS)	
		AM	PM
		LOS	LOS
Denver Ave/Site Access #2			
	WB Left	B	B
	WB Right	A	A
	WB Approach	B	B
	NB Thru/Right	A	A
	NB Approach	A	A
	SB Left/Thru	A	A
	SB Approach	A	A

6.0 Findings

Based upon the analysis presented in this Traffic Impact Study (TIS), the proposed Flats at Lupton Village project located at the northeast quadrant of Denver Avenue and Kahil Street in Fort Lupton, Colorado will be able to be successfully meet the City of Fort Lupton's requirements for traffic at the time of development. All studied intersections are projected to operate acceptably upon full development of the proposed project.

The findings of the TIS are summarized below:

- The proposed project is anticipated to generate approximately 878 daily weekday trips, 56 AM total peak hour trips, and 67 PM total peak hour trips.
- The project complies with the City's Levels of Service (LOS) requirements for traffic, and the City's Transportation Plan.
- The study intersections will operate acceptably and comply with the City's intersection levels of service (LOS) requirements with the development of the project and background traffic in the 2025 Short Range Total future.
- The existing street improvements are sufficient to accommodate the proposed project's traffic.

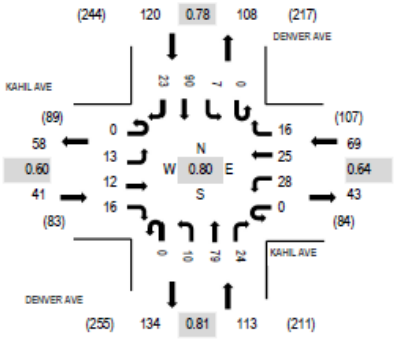
APPENDICES:

Appendix A: Recent Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

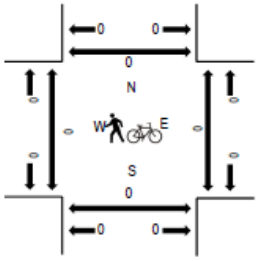
Location: 1 DENVER AVE & KAHIL AVE AM
Date: Thursday, January 27, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



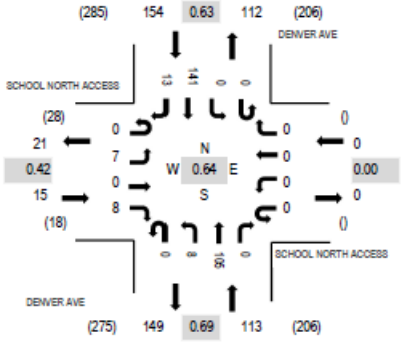
Traffic Counts

Interval Start Time	KAHIL AVE Eastbound				KAHIL AVE Westbound				DENVER AVE Northbound				DENVER AVE Southbound				Rolling Hour		Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	4	1	0	5	3	4	0	2	26	3	0	6	23	1	82	337	0	0	0	0
7:15 AM	0	4	4	4	0	5	11	11	0	3	21	8	0	3	26	7	107	343	0	0	0	0
7:30 AM	0	1	2	3	0	4	9	1	0	3	18	2	0	2	28	6	79	336	0	0	0	0
7:45 AM	0	6	3	3	0	8	3	2	0	0	17	6	0	2	17	2	69	324	0	0	0	0
8:00 AM	0	2	3	6	0	11	2	2	0	4	23	8	0	0	19	8	88	308	0	0	0	0
8:15 AM	0	11	8	2	0	3	3	2	0	2	27	2	0	4	31	5	100		0	0	0	0
8:30 AM	0	3	3	0	0	5	3	1	0	3	17	3	0	4	23	2	67		0	0	0	0
8:45 AM	0	3	1	2	0	4	4	1	0	1	10	2	0	1	22	2	53		0	0	0	0
Count Total	0	34	28	21	0	45	38	24	0	18	159	34	0	22	189	33	645		0	0	0	0
Peak Hour	0	13	12	16	0	28	25	16	0	10	79	24	0	7	90	23	343		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

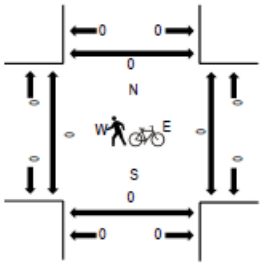
Location: 2 DENVER AVE & SCHOOL NORTH ACCESS AM
Date: Thursday, January 27, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk

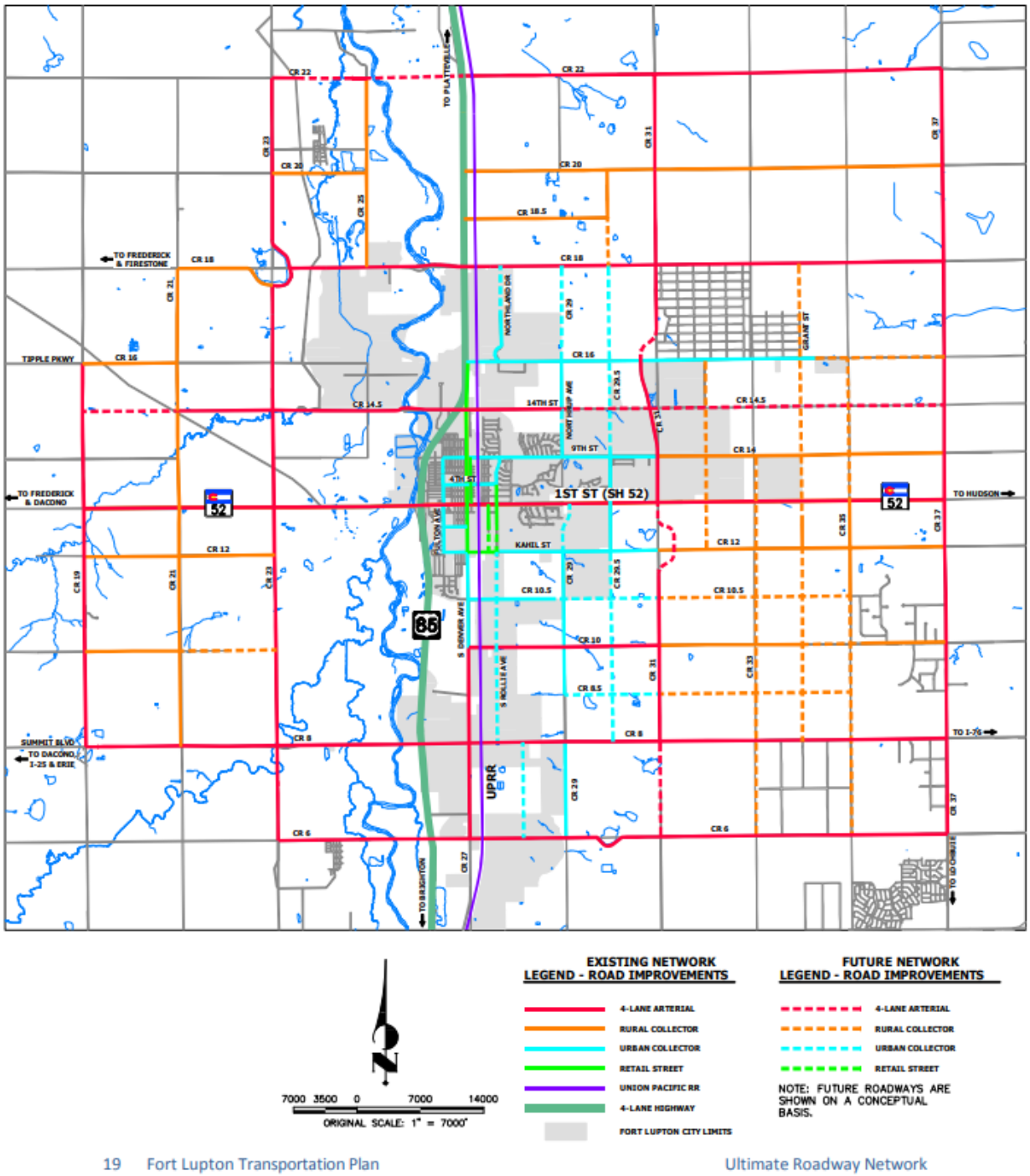


Traffic Counts

Interval Start Time	SCHOOL NORTH ACCESS Eastbound				SCHOOL NORTH ACCESS Westbound				DENVER AVE Northbound				DENVER AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	2	0	0	0	0	0	4	25	0	0	0	35	3	69	282	0	0	0	0
7:15 AM	0	6	0	3	0	0	0	0	0	3	38	0	0	0	53	8	111	270	0	0	0	0
7:30 AM	0	1	0	1	0	0	0	0	0	0	19	0	0	0	35	1	57	235	0	0	0	0
7:45 AM	0	0	0	2	0	0	0	0	0	1	23	0	0	0	18	1	45	231	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	25	0	0	0	30	2	57	227	0	0	0	0
8:15 AM	0	1	0	1	0	0	0	0	0	0	33	0	0	0	41	0	76		0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	1	20	0	0	0	27	4	53		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	14	0	0	0	27	0	41		0	0	0	0
Count Total	0	9	0	9	0	0	0	0	0	9	197	0	0	0	266	19	509		0	0	0	0
Peak Hour	0	7	0	8	0	0	0	0	0	8	105	0	0	0	141	13	282		0	0	0	0

Appendix B: Excerpt from Transportation Plan

Figure 9: Ultimate Roadway Network



19 Fort Lupton Transportation Plan Ultimate Roadway Network

Appendix C: Level of Service (LOS) Table

Level of Service Definitions

Level of Service (LOS)	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Appendix D: Aerial Image



Google Earth

Appendix E: HCM Calculations (Synchro)

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	8	105	141	13
Future Vol, veh/h	7	8	8	105	141	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	9	9	114	153	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	292	160	167	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	699	885	1411	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	694	885	1411	-	-	-
Mov Cap-2 Maneuver	694	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1411	-	784	-	-
HCM Lane V/C Ratio	0.006	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	12	16	28	25	16	10	79	24	7	90	23
Future Vol, veh/h	13	12	16	28	25	16	10	79	24	7	90	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	13	17	30	27	17	11	86	26	8	98	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	270	261	111	263	260	99	123	0	0	112	0	0
Stage 1	127	127	-	121	121	-	-	-	-	-	-	-
Stage 2	143	134	-	142	139	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	683	644	942	690	645	957	1464	-	-	1478	-	-
Stage 1	877	791	-	883	796	-	-	-	-	-	-	-
Stage 2	860	785	-	861	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	642	635	942	660	636	957	1464	-	-	1478	-	-
Mov Cap-2 Maneuver	642	635	-	660	636	-	-	-	-	-	-	-
Stage 1	870	786	-	876	790	-	-	-	-	-	-	-
Stage 2	809	779	-	826	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.8	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1464	-	-	730	701	1478	-	-
HCM Lane V/C Ratio	0.007	-	-	0.061	0.107	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.3	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	5	2	187	129	19
Future Vol, veh/h	11	5	2	187	129	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	5	2	203	140	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	358	151	161	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	640	895	1418	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	639	895	1418	-	-	-
Mov Cap-2 Maneuver	639	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1418	-	702	-	-
HCM Lane V/C Ratio	0.002	-	0.025	-	-
HCM Control Delay (s)	7.5	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	19	7	24	30	6	7	161	37	6	103	15
Future Vol, veh/h	19	19	7	24	30	6	7	161	37	6	103	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	21	8	26	33	7	8	175	40	7	112	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	365	365	120	360	353	195	128	0	0	215	0	0
Stage 1	134	134	-	211	211	-	-	-	-	-	-	-
Stage 2	231	231	-	149	142	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	591	563	931	596	572	846	1458	-	-	1355	-	-
Stage 1	869	785	-	791	728	-	-	-	-	-	-	-
Stage 2	772	713	-	854	779	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	556	556	931	569	565	846	1458	-	-	1355	-	-
Mov Cap-2 Maneuver	556	556	-	569	565	-	-	-	-	-	-	-
Stage 1	864	780	-	786	724	-	-	-	-	-	-	-
Stage 2	727	709	-	820	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	11.9	0.3	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	593	586	1355	-	-
HCM Lane V/C Ratio	0.005	-	-	0.082	0.111	0.005	-	-
HCM Control Delay (s)	7.5	0	-	11.6	11.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	8	111	150	14
Future Vol, veh/h	7	8	8	111	150	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	9	9	121	163	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	310	171	178	0	-	0
Stage 1	171	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	682	873	1398	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	677	873	1398	-	-	-
Mov Cap-2 Maneuver	677	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	888	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1398	-	769	-	-
HCM Lane V/C Ratio	0.006	-	0.021	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	13	17	30	27	17	11	84	25	7	96	24
Future Vol, veh/h	14	13	17	30	27	17	11	84	25	7	96	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	14	18	33	29	18	12	91	27	8	104	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	285	275	117	278	275	105	130	0	0	118	0	0
Stage 1	133	133	-	129	129	-	-	-	-	-	-	-
Stage 2	152	142	-	149	146	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	667	632	935	674	632	949	1455	-	-	1470	-	-
Stage 1	870	786	-	875	789	-	-	-	-	-	-	-
Stage 2	850	779	-	854	776	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	624	623	935	642	623	949	1455	-	-	1470	-	-
Mov Cap-2 Maneuver	624	623	-	642	623	-	-	-	-	-	-	-
Stage 1	862	781	-	867	782	-	-	-	-	-	-	-
Stage 2	795	772	-	817	771	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1455	-	-	716	685	1470	-	-
HCM Lane V/C Ratio	0.008	-	-	0.067	0.117	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.4	11	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	5	2	198	137	20
Future Vol, veh/h	12	5	2	198	137	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	5	2	215	149	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	379	160	171	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	623	885	1406	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	622	885	1406	-	-	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1406	-	682	-	-
HCM Lane V/C Ratio	0.002	-	0.027	-	-
HCM Control Delay (s)	7.6	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	20	7	25	32	6	7	171	39	6	109	16
Future Vol, veh/h	20	20	7	25	32	6	7	171	39	6	109	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	22	8	27	35	7	8	186	42	7	118	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	385	385	127	379	372	207	135	0	0	228	0	0
Stage 1	141	141	-	223	223	-	-	-	-	-	-	-
Stage 2	244	244	-	156	149	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	573	549	923	579	558	833	1449	-	-	1340	-	-
Stage 1	862	780	-	780	719	-	-	-	-	-	-	-
Stage 2	760	704	-	846	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	536	542	923	552	551	833	1449	-	-	1340	-	-
Mov Cap-2 Maneuver	536	542	-	552	551	-	-	-	-	-	-	-
Stage 1	857	775	-	775	715	-	-	-	-	-	-	-
Stage 2	713	700	-	811	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	12.2	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	575	570	1340	-	-
HCM Lane V/C Ratio	0.005	-	-	0.089	0.12	0.005	-	-
HCM Control Delay (s)	7.5	0	-	11.9	12.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	8	5	0	20	8	111	1	6	152	14
Future Vol, veh/h	7	0	8	5	0	20	8	111	1	6	152	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	9	5	0	22	9	121	1	7	165	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	338	327	173	331	334	122	180	0	0	122	0	0
Stage 1	187	187	-	140	140	-	-	-	-	-	-	-
Stage 2	151	140	-	191	194	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	616	591	871	622	586	929	1396	-	-	1465	-	-
Stage 1	815	745	-	863	781	-	-	-	-	-	-	-
Stage 2	851	781	-	811	740	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	596	584	871	610	579	929	1396	-	-	1465	-	-
Mov Cap-2 Maneuver	596	584	-	610	579	-	-	-	-	-	-	-
Stage 1	809	741	-	857	776	-	-	-	-	-	-	-
Stage 2	825	776	-	799	736	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.4	0.5	0.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1396	-	-	717	841	1465	-	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.032	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.1	9.4	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	13	17	30	27	17	11	88	25	7	110	25
Future Vol, veh/h	15	13	17	30	27	17	11	88	25	7	110	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	14	18	33	29	18	12	96	27	8	120	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	307	297	134	300	297	110	147	0	0	123	0	0
Stage 1	150	150	-	134	134	-	-	-	-	-	-	-
Stage 2	157	147	-	166	163	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	645	615	915	652	615	943	1435	-	-	1464	-	-
Stage 1	853	773	-	869	785	-	-	-	-	-	-	-
Stage 2	845	775	-	836	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	602	606	915	620	606	943	1435	-	-	1464	-	-
Mov Cap-2 Maneuver	602	606	-	620	606	-	-	-	-	-	-	-
Stage 1	845	768	-	861	778	-	-	-	-	-	-	-
Stage 2	790	768	-	799	758	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.1	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1435	-	-	693	667	1464	-	-
HCM Lane V/C Ratio	0.008	-	-	0.071	0.121	0.005	-	-
HCM Control Delay (s)	7.5	0	-	10.6	11.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	116	4	2	163
Future Vol, veh/h	10	8	116	4	2	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	126	4	2	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	309	128	0	0	130	0
Stage 1	128	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	683	922	-	-	1455	-
Stage 1	898	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	682	922	-	-	1455	-
Mov Cap-2 Maneuver	682	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	682	922	1455	-
HCM Lane V/C Ratio	-	-	0.016	0.009	0.001	-
HCM Control Delay (s)	-	-	10.4	8.9	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	0	5	3	0	10	2	198	2	18	146	20
Future Vol, veh/h	12	0	5	3	0	10	2	198	2	18	146	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	5	3	0	11	2	215	2	20	159	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	436	431	170	433	441	216	181	0	0	217	0	0
Stage 1	210	210	-	220	220	-	-	-	-	-	-	-
Stage 2	226	221	-	213	221	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	531	517	874	533	510	824	1394	-	-	1353	-	-
Stage 1	792	728	-	782	721	-	-	-	-	-	-	-
Stage 2	777	720	-	789	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	508	874	522	501	824	1394	-	-	1353	-	-
Mov Cap-2 Maneuver	517	508	-	522	501	-	-	-	-	-	-	-
Stage 1	790	716	-	780	720	-	-	-	-	-	-	-
Stage 2	765	719	-	772	708	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	10.1	0.1	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1394	-	-	588	727	1353	-	-
HCM Lane V/C Ratio	0.002	-	-	0.031	0.019	0.014	-	-
HCM Control Delay (s)	7.6	0	-	11.3	10.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	20	7	25	32	6	7	184	39	6	116	18
Future Vol, veh/h	22	20	7	25	32	6	7	184	39	6	116	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	22	8	27	35	7	8	200	42	7	126	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	408	408	136	402	397	221	146	0	0	242	0	0
Stage 1	150	150	-	237	237	-	-	-	-	-	-	-
Stage 2	258	258	-	165	160	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	554	533	913	559	540	819	1436	-	-	1324	-	-
Stage 1	853	773	-	766	709	-	-	-	-	-	-	-
Stage 2	747	694	-	837	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	527	913	532	534	819	1436	-	-	1324	-	-
Mov Cap-2 Maneuver	517	527	-	532	534	-	-	-	-	-	-	-
Stage 1	848	768	-	761	705	-	-	-	-	-	-	-
Stage 2	700	690	-	802	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	12.5	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	556	551	1324	-	-
HCM Lane V/C Ratio	0.005	-	-	0.096	0.124	0.005	-	-
HCM Control Delay (s)	7.5	0	-	12.2	12.5	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	6	199	13	9	145
Future Vol, veh/h	6	6	199	13	9	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	216	14	10	158

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	401	223	0	0	230	0
Stage 1	223	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	605	817	-	-	1338	-
Stage 1	814	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	600	817	-	-	1338	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	600	817	1338	-
HCM Lane V/C Ratio	-	-	0.011	0.008	0.007	-
HCM Control Delay (s)	-	-	11.1	9.4	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	11	11	150	201	19
Future Vol, veh/h	10	11	11	150	201	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	12	12	163	218	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	416	229	239	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	187	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	593	810	1328	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	810	1328	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1328	-	686	-	-
HCM Lane V/C Ratio	0.009	-	0.033	-	-
HCM Control Delay (s)	7.7	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	19	17	23	40	36	23	14	113	34	10	129	33
Future Vol, veh/h	19	17	23	40	36	23	14	113	34	10	129	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	18	25	43	39	25	15	123	37	11	140	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	384	370	158	374	370	142	176	0	0	160	0	0
Stage 1	180	180	-	172	172	-	-	-	-	-	-	-
Stage 2	204	190	-	202	198	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	574	560	887	583	560	906	1400	-	-	1419	-	-
Stage 1	822	750	-	830	756	-	-	-	-	-	-	-
Stage 2	798	743	-	800	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	519	548	887	543	548	906	1400	-	-	1419	-	-
Mov Cap-2 Maneuver	519	548	-	543	548	-	-	-	-	-	-	-
Stage 1	812	743	-	820	747	-	-	-	-	-	-	-
Stage 2	727	734	-	751	730	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	12.3	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1400	-	-	631	601	1419	-	-
HCM Lane V/C Ratio	0.011	-	-	0.102	0.179	0.008	-	-
HCM Control Delay (s)	7.6	0	-	11.4	12.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	7	3	267	184	27
Future Vol, veh/h	16	7	3	267	184	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	8	3	290	200	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	511	215	229	0	-	0
Stage 1	215	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	523	825	1339	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	521	825	1339	-	-	-
Mov Cap-2 Maneuver	521	-	-	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	755	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1339	-	587	-	-
HCM Lane V/C Ratio	0.002	-	0.043	-	-
HCM Control Delay (s)	7.7	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	27	10	34	43	9	10	30	53	9	147	21
Future Vol, veh/h	27	27	10	34	43	9	10	30	53	9	147	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	29	11	37	47	10	11	33	58	10	160	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	305	305	172	296	287	62	183	0	0	91	0	0
Stage 1	192	192	-	84	84	-	-	-	-	-	-	-
Stage 2	113	113	-	212	203	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	647	608	872	656	623	1003	1392	-	-	1504	-	-
Stage 1	810	742	-	924	825	-	-	-	-	-	-	-
Stage 2	892	802	-	790	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	597	599	872	617	614	1003	1392	-	-	1504	-	-
Mov Cap-2 Maneuver	597	599	-	617	614	-	-	-	-	-	-	-
Stage 1	804	737	-	917	818	-	-	-	-	-	-	-
Stage 2	826	796	-	744	728	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	11.6	0.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1392	-	-	629	641	1504	-	-
HCM Lane V/C Ratio	0.008	-	-	0.111	0.146	0.007	-	-
HCM Control Delay (s)	7.6	0	-	11.4	11.6	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	0	11	5	0	20	11	150	1	6	203	19
Future Vol, veh/h	10	0	11	5	0	20	11	150	1	6	203	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	12	5	0	22	12	163	1	7	221	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	445	434	232	440	444	164	242	0	0	164	0	0
Stage 1	246	246	-	188	188	-	-	-	-	-	-	-
Stage 2	199	188	-	252	256	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	523	515	807	527	508	881	1324	-	-	1414	-	-
Stage 1	758	703	-	814	745	-	-	-	-	-	-	-
Stage 2	803	745	-	752	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	507	807	513	500	881	1324	-	-	1414	-	-
Mov Cap-2 Maneuver	504	507	-	513	500	-	-	-	-	-	-	-
Stage 1	750	699	-	806	738	-	-	-	-	-	-	-
Stage 2	775	738	-	736	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.8	0.5	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	627	770	1414	-	-
HCM Lane V/C Ratio	0.009	-	-	0.036	0.035	0.005	-	-
HCM Control Delay (s)	7.7	0	-	11	9.8	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	17	23	40	36	23	14	117	34	10	143	34
Future Vol, veh/h	21	17	23	40	36	23	14	117	34	10	143	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	18	25	43	39	25	15	127	37	11	155	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	404	390	174	393	390	146	192	0	0	164	0	0
Stage 1	196	196	-	176	176	-	-	-	-	-	-	-
Stage 2	208	194	-	217	214	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	557	545	869	566	545	901	1381	-	-	1414	-	-
Stage 1	806	739	-	826	753	-	-	-	-	-	-	-
Stage 2	794	740	-	785	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	503	534	869	527	534	901	1381	-	-	1414	-	-
Mov Cap-2 Maneuver	503	534	-	527	534	-	-	-	-	-	-	-
Stage 1	796	732	-	816	744	-	-	-	-	-	-	-
Stage 2	723	731	-	736	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	12.5	0.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	610	586	1414	-	-
HCM Lane V/C Ratio	0.011	-	-	0.109	0.184	0.008	-	-
HCM Control Delay (s)	7.6	0	-	11.6	12.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.7	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	157	4	2	217
Future Vol, veh/h	10	8	157	4	2	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	9	171	4	2	236

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	413	173	0	0	175	0
Stage 1	173	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	595	871	-	-	1401	-
Stage 1	857	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	594	871	-	-	1401	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	594	871	1401	-
HCM Lane V/C Ratio	-	-	0.018	0.01	0.002	-
HCM Control Delay (s)	-	-	11.2	9.2	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	0	7	3	0	10	3	267	2	18	202	27
Future Vol, veh/h	16	0	7	3	0	10	3	267	2	18	202	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	0	8	3	0	11	3	290	2	20	220	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	578	573	235	576	586	291	249	0	0	292	0	0
Stage 1	275	275	-	297	297	-	-	-	-	-	-	-
Stage 2	303	298	-	279	289	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	427	430	804	428	422	748	1317	-	-	1270	-	-
Stage 1	731	683	-	712	668	-	-	-	-	-	-	-
Stage 2	706	667	-	728	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	414	421	804	417	413	748	1317	-	-	1270	-	-
Mov Cap-2 Maneuver	414	421	-	417	413	-	-	-	-	-	-	-
Stage 1	729	671	-	710	666	-	-	-	-	-	-	-
Stage 2	694	665	-	708	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	10.8	0.1	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1317	-	-	486	632	1270	-	-
HCM Lane V/C Ratio	0.002	-	-	0.051	0.022	0.015	-	-
HCM Control Delay (s)	7.7	0	-	12.8	10.8	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	27	10	34	43	9	10	43	53	9	157	23
Future Vol, veh/h	29	27	10	34	43	9	10	43	53	9	157	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	29	11	37	47	10	11	47	58	10	171	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	331	331	184	322	314	76	196	0	0	105	0	0
Stage 1	204	204	-	98	98	-	-	-	-	-	-	-
Stage 2	127	127	-	224	216	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	622	588	858	631	601	985	1377	-	-	1486	-	-
Stage 1	798	733	-	908	814	-	-	-	-	-	-	-
Stage 2	877	791	-	779	724	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	571	578	858	591	591	985	1377	-	-	1486	-	-
Mov Cap-2 Maneuver	571	578	-	591	591	-	-	-	-	-	-	-
Stage 1	791	727	-	900	807	-	-	-	-	-	-	-
Stage 2	811	784	-	732	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	11.9	0.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1377	-	-	605	617	1486	-	-
HCM Lane V/C Ratio	0.008	-	-	0.119	0.152	0.007	-	-
HCM Control Delay (s)	7.6	0	-	11.7	11.9	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	6	268	13	9	203
Future Vol, veh/h	6	6	268	13	9	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	291	14	10	221

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	539	298	0	0	305	0
Stage 1	298	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	503	741	-	-	1256	-
Stage 1	753	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	498	741	-	-	1256	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	498	741	1256	-
HCM Lane V/C Ratio	-	-	0.013	0.009	0.008	-
HCM Control Delay (s)	-	-	12.3	9.9	7.9	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	-

KELLAR ENGINEERING



Sean Kellar, PE, PTOE

Principal Engineer

Education
B.S., Civil Engineering, Arizona State University – Tempe, AZ

Registration
Colorado, Professional Engineer (PE)
Wyoming, Professional Engineer (PE)
Idaho, Professional Engineer (PE)
Arizona, Professional Engineer (PE)
Kansas, Professional Engineer (PE)
Missouri, Professional Engineer (PE)
Professional Traffic Operations Engineer (PTOE)

Professional Memberships
Institute of Transportation Engineers (ITE)

Industry Tenure
22 Years

Sean's wide range of expertise includes: transportation planning, traffic modeling roadway design, bike and pedestrian facilities, traffic impact studies, traffic signal warrant analysis, parking studies, corridor planning and access management. Sean's experience in both the private and public sectors; passion for safety and excellence; and strong communication and collaboration skills can bring great value to any project. Prior to starting Kellar Engineering, Sean was employed at the Missouri Department of Transportation (MoDOT) as the District Traffic Engineer for the Kansas City District. Sean also worked for the City of Loveland, CO for over 10 years as a Senior Civil Engineer supervising a division of transportation/traffic engineers. While at the City of Loveland, Sean managed several capital improvement projects, presented several projects to the City Council and Planning Commission in public hearings, and managed the revisions to the City's Street Standards. Sean is also proficient in Highway Capacity Software, Synchro, PT Vissim, Rodel, GIS, and AutoCAD.

WORK EXPERIENCE:

Kellar Engineering, Principal Engineer/President – January 2016 – Present

Missouri Department of Transportation, District Traffic Engineer, Kansas City District – June 2015 – January 2016

City of Loveland, Colorado, Senior Civil Engineer, Public Works Department – February 2005 – June 2015

Kirkham Michael Consulting Engineers, Project Manager - February 2004 – February 2005

Dibble and Associates Consulting Engineers, Project Engineer – August 1999 – February 2004

THE FLATS AT LUPTON VILLAGE

FINAL HYDRAULIC REPORT

April 2022

Project 21-031

PREPARED FOR

Lupton Village Land Developers, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

PREPARED BY

LandOne Engineering, LLC
361 71st Avenue #100
Greeley, Colorado 80634

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I. GENERAL LOCATION AND DESCRIPTION

A. Location

The proposed project is located in Fort Lupton, Colorado on the north side of County Road 12, east of Denver Avenue, and more particularly described as The Flats at Lupton Village PUD.

The site is bordered by Weld County Road (CR) 12 (Kahil Street) to the south, to the east by a railroad, to the north by vacant land and to the west by Denver Avenue. Reference Exhibit A – Vicinity Map.

B. Description of Property

The property is approximately 10.34 acres vacant land. The property is being developed as single-family townhomes. The townhomes will be 5-Plex's. There will be 24 buildings with a total of 120 units. See Exhibit B – Utility Plan.

II. POTABLE WATER SYSTEM

A. Existing Potable Water System

There are two proposed connections to the existing 12" watermain for this project. The connections are at the following locations:

- In Denver Ave approximately 200 feet north of County Road 12 (Kahil Street).
- In Denver Ave approximately 1,200 feet north of County Road 12.

Reference Exhibit B – Utility Plan.

Fire flow tests on the existing system were completed on August 23rd, 2021 and September 8th, 2021. See Exhibit C – Fire Flow Test Locations. The results of the flow test are shown in Table 1 below.

Table 1: Hydrant Flow Test Results

Hydrant ID	Hydrant Number	Location	Static Pressure (psi)	Residual Pressure (psi)	Flow Rate (gpm)
FTL-FH-0081	81	Denver Ave.	54	50	1000
FTL-FH-0074	74	Denver Ave.	62	56	1130

B. Potable Water Hydraulic Performance Criteria

For the design of the potable water main, Fort Lupton Standards and specifications of design and flow tests conducted by the city were referenced. The following assumptions have been made:

- The existing watermain supply is assumed to be endless.
- The existing watermain's static pressure at the connection points are 54 psi and 62 psi.
- The Hazen-Williams coefficient for PVC pipe was assumed to be 130.

The design of the potable water system will meet the minimum performance criteria in Table 2 below as defined in the City Development Standards.

Table 2: Potable Water Hydraulic Performance Criteria

Criteria Description	Pressure (PSI)
Maximum Static Pressure	100
Minimum Fire Flow Pressure (Max Day Demand + Fire Flow)	20
Minimum Pressure at Peak Hour Demand	50
The maximum pressure fluctuation between Peak Hour Demand and Average Day Demand	30

The minimum demand performance criteria is outlined in Table 3 below.

Table 3: Potable Water Demand Performance Criteria

Type of Development	Units per Acre	People per Unit	Per Capita Day Demand gpd
Single Family Attached	Up to 18	2.62	200

C. Potable Water Demands and Model

Demands were calculated for the Average Day Demand (ADD), Max Day demand (MDD), and Peak Hour Demand (PHD). The system was analyzed in two different design cases.

- Design Case 1: Maximum Day Demand + Project Fire Flow.
- Design case 2: Peak Hour Demand.

Irrigation has not been factored into these demand calculations. Irrigation demand will be met by a separate non-potable source.

A peaking factor of 2.5 and 4.0, was assumed for max day demand and peak hour demand respectively per Ch.3 Section 13 of Fort Lupton Standards and Specifications Manual.

Fire flow demands were calculated assuming the requirements in the 2018 International Fire Code. Assuming a 4,400 gross square foot building based on the 5-plex and Type V-B building construction, the minimum required fire flow, based on Table B105.1 is assumed to be 1,750 gallons per minute. The buildings will not have automatic sprinkler systems, so a reduction in the minimum required fire flow will not be allowed.

Table 4: Potable Water Demands

Design Scenario	Flow (gpd)	Flow (gpm)
Average Day Demand	62,880	23
Max Day Demand	157,200	110
Peak Hour Demand	251,520	175
Project Fire Flow	N/A	1,750

The Maximum Day Demand + Project Fire Flow was calculated to be 1,860 gpm. The Peak Hour Demand was calculated to be 175 gpm. Once the demands were determined, calculations were completed to determine if the minimum criteria were met. See Exhibit C – Water Model Layout and Analysis.

D. Results and Conclusion

For Design Case 1, the minimum residual pressure in the system was calculated to be 55 psi. This result exceeds the minimum pressure of 20 psi, as stated in Section 3.15 of the Standards and Specifications. Based on the modeling, the site will be served by an 8-inch potable water main. Design Case 2 was not evaluated since Design Case 1 exceeded the minimum criteria for Design Case 2. Overall, the proposed water system meets or exceeds the criteria set forth by the Standards and Specifications.

III. SANITARY SEWER

A. Existing Sanitary Sewer System

There are two proposed connections to the existing sanitary sewer system. The connections are at the following locations:

- To an existing manhole located in County Road 12 (Kahil Street).
- To an existing manhole located 140' +/- west of the back of walk that runs parallel with Denver Avenue, and 20' +/- north of the back of walk that runs parallel with Reynolds Street.

Reference Exhibit B – Utility Plan

B. Wastewater Hydraulic Performance Criteria

For the design of the sanitary sewer main, the Standards and Specifications were referenced. The following assumptions have been made:

- A peaking factor of 3.0 for Peak Daily Flow
- Infiltration and Inflow Rate of 1000 gallon per acre per day
- Manning n equal to 0.015
- Minimum slope 0.5%
- Design capacity of the pipe assuming a maximum depth of 2/3 the diameter of the pipe

The minimum demand performance criteria is outlined in Table 5 below.

Table 5: Wastewater Hydraulic Performance Criteria

Property Type	People per Unit	Average Use (gpcd)
Single Family Residential	2.90	70

C. Wastewater Demands and Model

The average daily flow, peak daily flow and infiltration/inflow for the single-family residential development was calculated. For the 120 proposed units the total wastewater demands are shown in Table 6 below.

Table 6: Townhome Wastewater Demands

Design Scenario	Acres	# Of Units	Flow (gpd)	Flow (gpm)
Average Daily Flow	N/A	120	24,360	16.9
Peak Daily Flow	N/A	120	73,080	50.7
Infiltration and Inflow	10.34	N/A	10,340	7.2

The Peak Daily Flow plus Infiltration/Inflow was calculated to be 57.9 gpm. Once the demands were

determined, calculations were completed to determine if the minimum criteria were met. The demands were divided between the sewer connections by the number of units served by each connection. The Infiltration/Inflow was determined by applying the percentage of units served by the line to the total Infiltration/Inflow demand assumed for the site. See Exhibit E – Sanitary Sewer Analysis and Exhibit B – Utility Plan.

D. Results and Conclusion

The analysis of the 8" sanitary sewer main showed a maximum depth of 1.7 inches for the Peak Daily Flow with Infiltration/Inflow. Overall, the proposed sanitary sewer system meets or exceeds the criteria set forth by the Standards and Specifications.

IV. REFERENCES

- City of Fort Lupton Standards and Specifications for The Design and Construction of Public Improvements, 2014 Edition, referred to herein as the Standards and Specifications.
- 2018 International Fire Code

V. EXHIBITS

Exhibit A. Vicinity Map

Exhibit B. Utility Plan

Exhibit C. Fire Flow Test Results

Exhibit D. Water Model and Analysis

Exhibit E. Sanitary Sewer Analysis



The Flats at Lupton Village

Exhibit A - Vicinity Map

LAND ONE engineering
970-632-2311

S Denver Avenue

Railroad ROW

Kahil Street

Reynolds Street

Existing Storm Inlet
Existing Storm Drain Manhole
Existing 36" RCP Storm Drain
Connect to 48" EX-SSMH
Install 48" SSMH
Tie to existing water line
Existing Power Pole
8" SDR 35 PVC
36" HDPE
Install 48" SDMH
Connect to 48" EX-SDMH
Existing 18" PVC Sewer Main
24" RCP
Install Type R Inlet
Connect to existing 16"x24" storm drain
Existing 16"x24" RCP Storm Drain
Existing Storm Inlet
Existing Fiber Optic Line
Install Light Pole
Install 48" SDMH
Install 48" SSMH
Install Type R Inlet
Install approximate 4' water lowering
24" HDPE
Existing Overhead Electric Line
Existing Power Pole
Existing 12" Water Main
Existing Gas Main
Existing power pole to me moved out of drive.
Install 48" SSMH
8" SDR 35 PVC
Replace existing 48" EX-SSMH
8" SDR 35 PVC
Install 48" SSMH
Existing Fiber Optic Line
Install 48" SSMH
8" SDR 35 PVC
Install 6" Cleanout
Tie to existing water line
Install 4" Service to adjacent property line.
Install Type R Inlet
Install Type R Inlet
Install Light Pole
Install Fire Hydrant Assembly
18" HDPE
8" SDR 35 PVC
Install 48" SSMH
Install 48" SDMH
Install 8"X4" Tee w/ TB
Install 48" SDMH
Install approximate 8' water lowering
Install 4"x2" Tee w/ TB
4" C900 PVC
6" SDR 35 PVC
Install 6" Cleanout
Install 48" SSMH
Install 4"x2" Tee w/ TB
12" HDPE
Install 6" Cleanout
Install Nyloplast 12" Inlet
Install 48" SDMH
Install Nyloplast 12" Inlet
Install Nyloplast 12" Inlet
Install Nyloplast 12" Inlet
Install Nyloplast 12" Inlet
Install Nyloplast 12" Inlet
Building 1
Building 2
Building 3
Building 4
Building 5
Building 6
Building 7
Building 8
Building 9
Building 10
Building 11
Building 12
Building 13
Building 14
Building 15
Building 16
Building 17
Building 18
Building 19
Building 20
Building 21
Building 22
Building 23
Building 24

N

Scale: 1" = 60'

Legend

Existing		Proposed
	Project Boundary	
	Lot Line	
	Right of Way	
	Easement	
W	Potable Water	W
NPW	Non-Potable Water	NPW
SS	Sanitary Sewer	SS
ST	Storm	ST
FO	Fiber Optic	
	Flowline	
	Swale Flowline	
	Curb and Gutter	
	Fence	
	Pavement	
	Concrete	
	Open Space	
GAS	Gas	GAS
E	Electric	E

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY
NOT FOR CONSTRUCTION

Job Number 21-031
Checked By JG
Date 04/20/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical), The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

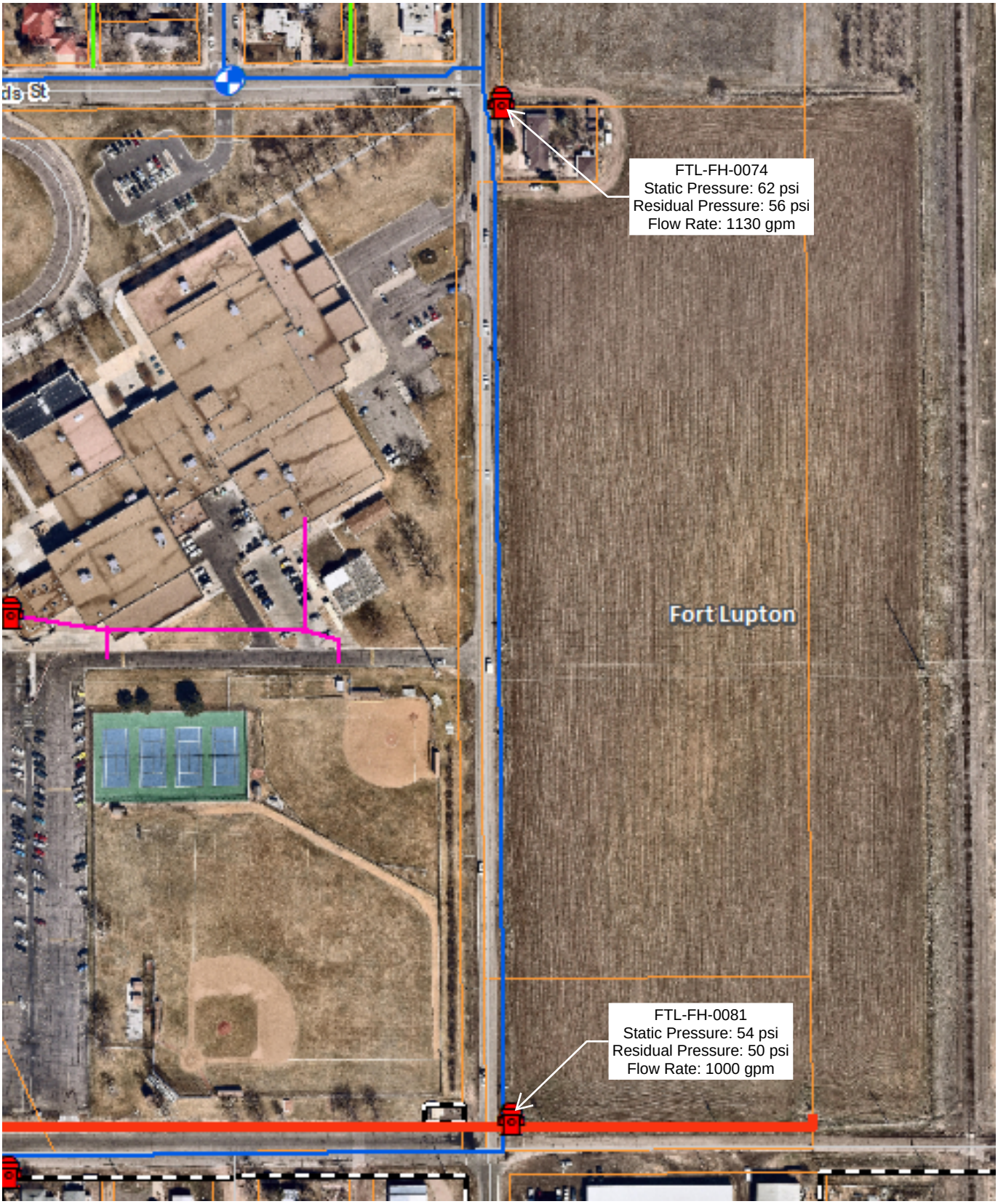
COLORADO 811 KNOW WHAT'S BELOW CALL BEFORE YOU DIG

Rev. No.	Date	Revision Description
A	04/22/2022	1st CD Submittal to City

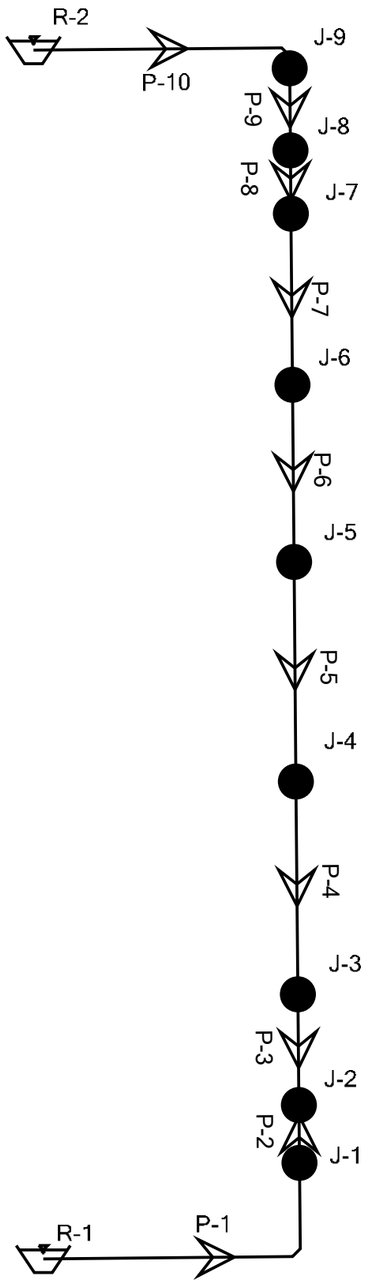
The Flats at Lupton Village
Construction Documents
Overall Utility Plan
Fort Lupton, CO

Sheet C8.0

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\CDs\Overall Utility Plan 21-031.dwg, 4/14/2022 4:34:10 PM, Sam Boyd, LandOne Engineering



The Flats at Lupton Village	Exhibit C - Fire Flow Test Locations	LAND ONE engineering 970-632-2311



Water Model Schematic

Building Demands have been distributed amongst junctions to more accurately represent the system.

Reservoir Table

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	5,043.74	305	5,043.74
R-2	5,061.22	1,555	5,061.22

Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	4,915.00	9	5,043.16	55
J-2	4,915.50	875	5,043.06	55
J-3	4,916.00	18	5,043.67	55
J-4	4,917.00	18	5,044.92	55
J-5	4,916.00	18	5,046.28	56
J-6	4,917.00	18	5,047.43	56
J-7	4,917.00	18	5,048.61	57
J-8	4,917.00	875	5,049.07	57
J-9	4,917.50	9	5,051.86	58

Pipe Table

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Material
P-1	R-1	J-1	288	8.0	130.0	305	1.95	0.002	PVC
P-2	J-1	J-2	48	8.0	130.0	296	1.89	0.002	PVC
P-3	J-2	J-3	92	8.0	130.0	-579	3.69	0.007	PVC
P-4	J-3	J-4	177	8.0	130.0	-597	3.81	0.007	PVC
P-5	J-4	J-5	183	8.0	130.0	-615	3.93	0.007	PVC
P-6	J-5	J-6	147	8.0	130.0	-634	4.05	0.008	PVC
P-7	J-6	J-7	142	8.0	130.0	-652	4.16	0.008	PVC
P-8	J-7	J-8	53	8.0	130.0	-670	4.28	0.009	PVC
P-9	J-8	J-9	68	8.0	130.0	-1,545	9.86	0.041	PVC
P-10	J-9	R-2	226	8.0	130.0	-1,555	9.92	0.041	PVC

County Road 12 (Kahil Street) Connection

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.010	
Channel Slope	0.005	ft/ft
Diameter	8.0	in
Discharge	48.30	gpm

Results		
Normal Depth	1.7	in
Flow Area	0.1	ft^2
Wetted Perimeter	0.6	ft
Hydraulic Radius	1.0	in
Top Width	0.54	ft
Critical Depth	1.8	in
Percent Full	21.0	%
Critical Slope	0.004	ft/ft
Velocity	2.02	ft/s
Velocity Head	0.06	ft
Specific Energy	0.20	ft
Froude Number	1.134	
Maximum Discharge	536.29	gpm
Discharge Full	498.54	gpm
Slope Full	0.000	ft/ft
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	21.0	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.7	in
Critical Depth	1.8	in
Channel Slope	0.005	ft/ft
Critical Slope	0.004	ft/ft

Reynolds Street Connection

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.010
Channel Slope	0.005 ft/ft
Diameter	8.0 in
Discharge	9.60 gpm

Results	
Normal Depth	0.8 in
Flow Area	0.0 ft²
Wetted Perimeter	0.4 ft
Hydraulic Radius	0.5 in
Top Width	0.39 ft
Critical Depth	0.8 in
Percent Full	9.6 %
Critical Slope	0.004 ft/ft
Velocity	1.24 ft/s
Velocity Head	0.02 ft
Specific Energy	0.09 ft
Froude Number	1.045
Maximum Discharge	536.29 gpm
Discharge Full	498.54 gpm
Slope Full	0.000 ft/ft
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	9.6 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.8 in
Critical Depth	0.8 in
Channel Slope	0.005 ft/ft
Critical Slope	0.004 ft/ft

City of Fort Lupton

Via Email

Attn: Chris Cross ccross@fortluptonco.gov

Todd Hodges thodges@fortluptonco.gov

Roy Vestal rvestal@fortluptonco.gov

February 4, 2022

RE: RAW Water Dedication

Dear Town Staff,

Background:

The purpose of this letter, and accompanying report is to request a reduction in water dedication for the single family and townhome products that Baessler Homes intends to construct in Fort Lupton. We feel that our product types encourage water conservation, and we look forward to working with the city. The following documents are included with this letter:

- Appendix A:
  - Actual Water Demand History of Single Family Homes in the North Point Subdivision Sixth Filing in Evans, Colorado
- Appendix B:
  - Actual Water Demand History of our Town Homes at the Orchard Park Subdivision in Evans, Colorado
- Appendix C:
  - Hines Inc Water Analysis letter (Includes Townhomes and Single Family)

Additional actuals and expert opinions are available upon further request.

BACKGROUND

Water conservation is a growingly important issue in Northern Colorado. Based on the real and actual data Baessler Home's products are consistently using a fraction of historically based raw water dedication amounts. Water dedication has a considerable impact on the attainability of a home in Northern Colorado. Ultimately, that impact is passed onto the consumers if the market allows. Water dedication should be data driven and encourage reduced usage. Units which are proven to use less water should be encouraged, and the dedication requirement should facilitate this. If the raw water dedication requirements are disproportionate to the actual usage of residents the result is a higher home price for consumers. This ultimately does little to encourage conservation as the allotments mimic that of larger and more intense users such as larger single family lots with basements. Baessler Homes understands that there is a budgetary and system need for municipalities, but in order to provide attainable housing there is also a need for fair application of costs based on ultimate usage and impact to the system.

SINGLE FAMILY

Appendix A includes 23 months of user data for a number of single family slab on grade home types in the North Point Subdivision in Evans Colorado. The data runs from December of 2019 to October of 2021 This data includes both internal and external (non-potable) usage and highlights the reduced demand these homes create.

The average annual usage in relation to an acre foot is below. This number includes the actual usage as well as an additional 18% to account for system loss. The 18% system loss is pulled directly from the Fort Lupton Water Efficiency Plan.

SINGLE FAMILY - Average Annual Potable Usage (with 18% loss) = 37,839 Gallons

With Non-Potable System

37,839 Gallons / 325,851 Gallons = **.1161 or 11.61% of Acre-Ft**

Without Non-Potable System

83,729 Gallons / 325,851 Gallons = **.2570 or 25.70% of Acre-Ft**

TOWNHOMES

Appendix B includes 18 months of user data for a variety of townhome types in the Orchard Park Subdivision in Evans Colorado. The data runs from January of 2019 to June of 2020 This data includes only internal usage and highlights the reduced demand these homes create.

The average annual usage in relation to an acre foot is below. This number includes the actual usage as well as an additional 18% to account for system loss. The 18% system loss is pulled directly from the Fort Lupton Water Efficiency Plan.

TOWNHOME – Average Annual Potable Usage (with 18% loss) = 38,932 Gallons

With Non-Potable System

38,932 Gallons / 325,851 Gallons = **.1195 or 11.95% of an Acre-Ft**

Please note that all homes are slab on grade and do not include basements, thus will not allow for additional growth or expansion of water fixtures within the units. All construction of both townhome and single-family units will include WaterSense fixtures, thus the water demand for the life of the home will remain very stable. Model number, bedrooms and bathrooms are included in the data.

The request below includes the acre-feet dedication amounts. In the interest of simplicity, we used acre-feet as our primary metric. Ultimately, we feel that using this metric allows for more straightforward conversion as other water sources may be used in the future.

REQUEST

Taking into consideration the accompanying documentation Baessler Homes requests the City of Fort Lupton accept the following RAW water dedication per unit type.

Townhome Units with Non-Potable: .11 Acre-Ft. Per Unit

Note: Townhome irrigated areas are typically handled through a separate irrigation study. May be potable or non-potable, but not included in request.

Slab on Grade Single Family Units with Non-Potable: .11 Acre-Ft. Per Unit

Slab on Grade Single Family Units without Non-Potable: .25 Acre Ft. Per Unit

Thank you for your consideration. We look forward to working with you all on this project.

Respectfully,

Andrew J Gerk
Representative
(970)702-6062
agerk@baesslerhomes.com

Appendix A

Average Single Family Usage (North Pointe Subdivision)

Lot	Block	Address/Model/Bedrooms	Type	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	1-Oct	Average Per Month
3	1	3108 Shelter Cove Dr																									
		505B	Potable Usage (gallons)												2,300.00	2,200.00	2,400.00	2,300.00	1,700.00	2,000.00	3,300.00	3,000.00	2,300.00	2,500.00	2,900.00		2,445.00
		4 BD/3 BA	Non-Potable Usage (gallons)												–	–	–	–	–	–	–	15,000.00	31,000.00	23,000.00	34,000.00		9,363.00
6	1	3317 Sandy Harbor Dr																									
		504C	Potable Usage (gallons)											700.00	400.00	4,400.00	2,400.00	2,100.00	1,800.00	2,200.00	4,800.00	3,200.00	2,700.00	4,700.00	2,200.00		2,633.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)											9,000.00	–	–	–	–	–	–	4,000.00	36,000.00	28,000.00	–	–		6,416.00
8	1	3309 Sandy Harbor Dr																									
		503A	Potable Usage (gallons)											1,600.00	700.00	4,100.00	2,200.00	2,300.00	2,200.00	2,500.00	2,500.00	2,800.00	3,000.00	2,500.00	2,400.00	2,500.00	2,407.00
		4 BD/3 BA	Non-Potable Usage (gallons)											29,000.00	–	–	–	–	–	–	–	–	15,000.00	5,000.00	10,000.00	12,000.00	5,461.00
10	1	3301 Sandy Harbor Dr																									
		504A	Potable Usage (gallons)										1,800.00	700.00	700.00	8,700.00	2,500.00	5,000.00	4,400.00	5,100.00	8,600.00	11,400.00	15,900.00	5,700.00	4,500.00	2,900.00	5,564.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)										5,000.00	–	–	–	–	–	–	–	–	6,000.00	7,000.00	6,000.00	7,000.00	2,000.00	2,357.00
25	1	2929 Shady Oaks Dr																									
		502B	Potable Usage (gallons)								1,700.00	1,900.00	1,700.00	1,700.00	1,800.00	1,900.00	2,100.00	2,200.00	2,100.00	2,700.00	2,100.00	2,200.00	2,300.00	2,500.00	1,800.00	1,700.00	2,025.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)								10,000.00	15,000.00	12,000.00	25,000.00	–	–	–	–	–	–	4,000.00	12,000.00	17,000.00	13,000.00	16,000.00	13,000.00	8,562.00
37	1	3300 Sheltered Harbor Dr																									
		502C	Potable Usage (gallons)	100.00	2,900.00	2,700.00	2,800.00	3,100.00	2,700.00	2,900.00	2,600.00	2,800.00	3,700.00	3,500.00	3,700.00	3,400.00	3,500.00	2,400.00	2,300.00	2,800.00	2,500.00	2,900.00	3,000.00	3,100.00	4,100.00	3,100.00	2,895.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	14,000.00	16,000.00	17,000.00	16,000.00	10,000.00	–	–	–	–	–	–	3,000.00	7,000.00	9,000.00	8,000.00	8,000.00	9,000.00	5,130.00
38	1	3304 Sheltered Harbor Dr																									
		500B	Potable Usage (gallons)																2,000.00	4,100.00	5,400.00	9,000.00	8,500.00	1,300.00	1,000.00	900.00	4,025.00
		2 BD/2 BA	Non-Potable Usage (gallons)																–	–	–	4,000.00	7,000.00	7,000.00	7,000.00	4,000.00	3,625.00
40	1	3312 Sheltered Harbor Dr																									
		500A	Potable Usage (gallons)					2,800.00	2,500.00	2,800.00	2,800.00	2,700.00	2,500.00	2,600.00	2,400.00	2,500.00	2,200.00	2,700.00	2,500.00	2,400.00	2,200.00	2,800.00	2,000.00	2,100.00	2,100.00		2,477.00
		2 BD/2 BA	Non-Potable Usage (gallons)					–	1,000.00	17,000.00	24,000.00	12,000.00	9,000.00	8,000.00	–	–	–	–	–	–	4,000.00	10,000.00	11,000.00	16,000.00	20,000.00		7,333.00
4	2	3216 Sandy Harbor Dr																									
		504B	Potable Usage (gallons)									–	5,900.00	18,900.00	2,000.00	2,400.00	3,300.00	1,900.00	1,600.00	2,000.00	1,600.00	6,400.00	13,200.00	4,300.00	1,400.00	1,100.00	4,400.00
		4 BD/3 BA	Non-Potable Usage (gallons)									1,000.00	14,000.00	13,000.00	–	–	–	–	–	–	1,000.00	12,000.00	11,000.00	13,000.00	13,000.00	13,000.00	6,066.00
6	2	3208 Sandy Harbor Dr																									
		500C	Potable Usage (gallons)							200.00	3,100.00	3,100.00	1,100.00	1,100.00	1,400.00	1,400.00	1,800.00	1,600.00	1,300.00	1,800.00	1,200.00	1,700.00	2,300.00	2,900.00	1,800.00	1,800.00	1,741.00
		2 BD/2 BA	Non-Potable Usage (gallons)							–	1,000.00	45,000.00	16,000.00	16,000.00	–	–	–	–	–	–	–	7,000.00	30,000.00	20,000.00	19,000.00	9,000.00	9,588.00
5	3	3300 North Point Dr																									
		503C	Potable Usage (gallons)								1,400.00	2,600.00	2,400.00	4,200.00	2,800.00	2,500.00	3,000.00	2,800.00	2,400.00	2,700.00	3,900.00	7,700.00	4,700.00	6,800.00	7,700.00		3,840.00
		3 BD/2 BA	Non-Potable Usage (gallons)								–	8,000.00	7,000.00	5,000.00	–	–	–	–	–	–	–	4,000.00	6,000.00	6,000.00	9,000.00		3,000.00
8	3	3208 North Point Dr																									
		503B	Potable Usage (gallons)									1,200.00	1,200.00	1,400.00	1,700.00	1,600.00	2,200.00	2,000.00	1,700.00	1,700.00	2,700.00	2,200.00	2,500.00	2,200.00	2,300.00	2,400.00	1,933.00
		3 BD/2 BA	Non-Potable Usage (gallons)									15,000.00	15,000.00	8,000.00	–	–	–	–	–	–	3,000.00	6,000.00	30,000.00	29,000.00	11,000.00	6,000.00	8,200.00
11	3	3215 Kingfisher Cove Dr																									
		501C	Potable Usage (gallons)																				1,100.00	1,600.00	1,500.00	1,200.00	1,350.00
		3 BD/2 BA	Non-Potable Usage (gallons)																				11,000.00	12,000.00	10,000.00	11,000.00	11,000.00
14	3	3309 Kingfisher Cove Dr																									
		501B	Potable Usage (gallons)	1,100.00	900.00	1,600.00	1,500.00	1,100.00	700.00	100.00	–	400.00	1,700.00	1,600.00	1,900.00	1,000.00	300.00	1,400.00	1,100.00	600.00	800.00	800.00	–	700.00	1,000.00	900.00	922.00
		3 BD/2 BA	Non-Potable Usage (gallons)	–	–	–	–	–	10,000.00	25,000.00	21,000.00	20,000.00	11,000.00	11,000.00	–	–	–	–	–	–	–	9,000.00	10,000.00	10,000.00	10,000.00	9,000.00	6,347.00
15	4	3301 Sheltered Harbor Dr																									
		501A	Potable Usage (gallons)	100.00	800.00	400.00	500.00	500.00	500.00	800.00	200.00	400.00	400.00	800.00	1,500.00	1,300.00	500.00	500.00	500.00	300.00	500.00	500.00	500.00	2,700.00	400.00	400.00	652.00
		3 BD/2 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	10,000.00	9,000.00	14,000.00	15,000.00	15,000.00	–	–	–	–	–	1,000.00	17,000.00	18,000.00	15,000.00	15,000.00	15,000.00	15,000.00	6,956.00
18	4	3313 Sheltered Harbor Dr																									
		502A	Potable Usage (gallons)	1,400.00	3,700.00	2,700.00	3,200.00	3,400.00	3,100.00	4,100.00	3,600.00	3,700.00	3,800.00	3,200.00	3,300.00	3,400.00	3,200.00	3,100.00	3,000.00	3,500.00	4,000.00	4,000.00	3,800.00	4,700.00	3,400.00	4,000.00	3,447.00
		3 BD/2.5 BA	Non-Potable Usage (gallons)	–	–	–	–	–	1,000.00	8,000.00	9,000.00	10,000.00	9,000.00	9,000.00	–	–	–	–	–	–	6,000.00	6,000.00	11,000.00	10,000.00	10,000.00	10,000.00	4,304.00

Usage with Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots per Acre-Ft
Potable Average Monthly:	2,672.25	Gallons	NA	NA
Potable Average Annual:	32,067.00	Gallons	NA	NA
Potable Average Monthly (18% System Loss):	3,153.26	Gallons	NA	NA
Potable Average Annual (18% System Loss):	37,839.06	Gallons	11.61%	8.61

Usage without Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots per Acre-Ft
Potable Average Monthly:	2,672.25	Gallons	NA	NA
Non-Potable Average Monthly:	6,481.75	Gallons	NA	NA
Total Average Monthly:	9,154.00	Gallons	NA	NA
Potable Average Annual:	32,067.00	Gallons	NA	NA
Non-Potable Average Annual:	38,890.50	Gallons	NA	NA
Total Average Annual:	70,957.50	Gallons	21.78%	4.59
Potable Average Monthly (18% System Loss):	3,153.26	Gallons	NA	NA
Non-Potable Average Monthly (18% System Loss):	7,648.47	Gallons	NA	NA
Total Average Monthly (18% System Loss):	10,801.72	Gallons	NA	NA
Potable Average Annual (18% System Loss):	37,839.06	Gallons	NA	NA
Non-Potable Average Annual (18% System Loss):	45,890.79	Gallons	NA	NA
Total Average Annual (18% System Loss):	83,729.85	Gallons	25.70%	3.89

Appendix B

Average Internal Townhome Usage (Orchard Park Subdivision)

Address	Building Type	2 Bedrooms	3 Bedrooms	19-Jan	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total Monthly Usage Per Unit
3329 Apple Blossom	5 plex	3	2	16,000	15,000	12,000	14,000	14,000	14,000	13,000	15,000	15,000	14,000	14,000	14,000	15,000	16,000	15,000	16,000	12,000	15,000	2,833
3331 Apple Blossom	5 plex	3	2	13,000	13,000	11,000	14,000	12,000	14,000	13,000	13,000	13,000	12,000	14,000	14,000	15,000	15,000	17,000	19,000	14,000	16,000	2,600
3332 Apple Blossom	5 plex	3	2	7,000	9,000	9,000	11,000	9,000	4,000	5,000	4,000	11,000	11,000	10,000	11,000	9,000	10,000	10,000	10,000	9,000	7,000	1,683
3333 Apple Blossom	5 plex	3	2	9,000	11,000	8,000	11,000	10,000	10,000	10,000	11,000	9,000	10,000	11,000	9,000	10,000	10,000	12,000	12,000	10,000	10,000	1,983
3334 Apple Blossom	4 plex	3	1	15,000	15,000	13,000	15,000	12,000	12,000	11,000	12,000	12,000	10,000	12,000	10,000	11,000	14,000	13,000	12,000	10,000	9,000	3,104
3335 Apple Blossom	5 plex	3	2	12,000	12,000	10,000	12,000	12,000	11,000	16,000	27,000	9,000	10,000	12,000	12,000	13,000	11,000	10,000	15,000	12,000	13,000	2,583
3336 Apple Blossom	4 plex	3	1	8,000	7,000	7,000	7,000	8,000	8,000	6,000	7,000	6,000	6,000	6,000	7,000	6,000	7,000	7,000	7,000	8,000	7,000	1,729
6339 Orchard Park	3 plex	2	1	9,000	12,000	12,000	11,000	10,000	14,000	11,000	10,000	9,000	8,000	12,000	9,000	11,000	10,000	9,000	11,000	10,000	11,000	3,528
6349 Orchard Park	5 plex	3	2	18,000	21,000	17,000	21,000	21,000	21,000	20,000	16,000	21,000	24,000	18,000	13,000	16,000	18,000	16,000	14,000	16,000	15,000	3,850
6450 Orchard Park	4 plex	4	0	11,000	11,000	11,000	11,000	11,000	8,000	12,000	13,000	15,000	14,000	14,000	13,000	14,000	14,000	12,000	16,000	14,000	13,000	3,000
6455 Chardonnay	4 plex	3	1	18,000	19,000	16,000	16,000	13,000	15,000	9,000	11,000	15,000	11,000	13,000	12,000	10,000	11,000	9,000	11,000	11,000	10,000	3,500
6459 Orchard Park	5 plex	3	2	14,944	16,000	15,000	16,000	18,000	16,000	15,000	14,000	14,000	13,000	13,000	14,000	15,000	12,000	13,000	18,000	16,000	15,000	2,982
6460 Orchard Park	5 plex	3	2	16,000	13,000	13,000	11,000	13,000	12,000	11,000	12,000	12,000	11,000	9,000	9,000	7,000	14,000	12,000	13,000	13,000	11,000	2,367
																					AVERAGE:	2,749.50

Usage with Non-Potable	Amount	Units	Percentage of Acre-Ft Used	Actual Lots Per Acre-Ft
Potable Average Monthly:	2,749.50	Gallons	NA	NA
Potable Average Annual:	32,994.00	Gallons	NA	NA
Potable Average Monthly (18% System Loss):	3,244.41	Gallons	NA	NA
Potable Average Annual (18% System Loss):	38,932.92	Gallons	11.95%	8.37

Hines Inc

August 27, 2020

Mr. Zach Cesar
Baessler Residential Colorado, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar,

Hines has completed an analysis of the estimated water use for the Baessler Homes 500 Series floor plans provided by your office for the proposed development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	4-Bed Unit	Standard Water Use (GPM)	Water Sense Water Use (GPM)
Faucets	4	5	6	2.2	1.5
Toilets	2	3	3	1.6	1.28
Shower/Bath	2	2	2	2.5	2.0
Dishwasher	1	1	1	6 gal/cycle	4 gal/cycle
Clothes Washer	1	1	1	20 gal/cycle	14 gal/cycle

Occupancy statistics of previous developments completed by Baessler Homes indicate:

- 2-bedroom units average 1.8 occupants.
- 3-bedroom units average 2.0-2.5 occupants.
- 4-bedroom units average 3.2 occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances, they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately, water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency (per day)	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	0.143	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	0.285	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The frequency for bathing is based on an average occupant use of 1 bath per week.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for model **500**, based on occupant type.

*Table 3 – **2** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	1.8	103.6	37,817	0.12
Efficient	1.8	61.92	22,601	0.07
Average	1.8	82.8	30,209	0.09

Table 4 provides the estimated daily water use for model **501**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2	115.1	42,019	0.13
Efficient	2	68.8	25,112	0.08
Average	2	92.0	33,565	0.10

Table 5 provides the estimated daily water use for model **503**, based on occupant type.

*Table 5 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,221	0.14
Efficient	2.2	75.68	27,623	0.08
Average	2.2	101.2	36,922	0.11

Table 4 provides the estimated daily water use for model **504**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.5	143.9	52,524	0.16
Efficient	2.5	86	31,390	0.10
Average	2.5	115.0	41,957	0.13

Table 5 provides the estimated daily water use for model **505**, based on occupant type.

*Table 5 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.2	184.2	67,230	0.21
Efficient	3.2	110.08	40,179	0.12
Average	3.2	147.1	53,705	0.16

Hines Inc

August 27, 2020

Mr. Zach Cesar
Baessler Residential Colorado, LLC
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar,

Hines has completed an analysis of the estimated water use for the Baessler Homes 600 Series floor plans provided by your office for the proposed development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	4-Bed Unit	Standard Water Use (GPM)	Water Sense Water Use (GPM)
Faucets	5	5	6	2.2	1.5
Toilets	3	3	4	1.6	1.28
Shower/Bath	3	3	3	2.5	2.0
Dishwasher	1	1	1	6 gal/cycle	4 gal/cycle
Clothes Washer	1	1	1	20 gal/cycle	14 gal/cycle

Occupancy statistics of previous developments completed by Baessler Homes indicate:

- 2-bedroom units average 1.8 occupants.
- 3-bedroom units average 2.2-2.5 occupants.
- 4-bedroom units average 3.2-3.5 occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances, they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately, water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency (per day)	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	0.143	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	0.285	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The frequency for bathing is based on an average occupant use of 1 bath per week.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for model **601**, based on occupant type.

*Table 3 – **2** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	1.8	103.6	37,817	0.12
Efficient	1.8	61.92	22,601	0.07
Average	1.8	82.8	30,209	0.09

Table 4 provides the estimated daily water use for model **602**, based on occupant type.

*Table 4 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,217	0.14
Efficient	2.2	75.68	27,623	0.08
Average	2.2	101.2	36,922	0.11

Table 5 provides the estimated daily water use for model **603**, based on occupant type.

*Table 5 – **3** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.5	143.9	52,519	0.16
Efficient	2.5	86	31,390	0.10
Average	2.5	114.9	41,954	0.13

Table 4 provides the estimated daily water use for model **604**, based on occupant type.

*Table 4 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.2	184.2	67,230	0.21
Efficient	3.2	110.08	40,179	0.12
Average	3.2	147.1	53,705	0.16

Table 5 provides the estimated daily water use for model **605**, based on occupant type.

*Table 5 – **4** Bedroom unit daily water use*

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	3.5	201.4	73,527	0.23
Efficient	3.5	120.4	43,946	0.13
Average	3.5	160.9	58,736	0.18

HINES INC

July 27, 2020

Mr. Zach Cesar
Baessler Homes
3780 West 10th Street, Suite 200
Greeley, CO 80634

Mr. Cesar

Hines has completed an analysis of the estimated water use for the Townhome Series floor plans provided by Baessler Homes proposed for the development. This analysis is conducted using fixture count, typical resident count per unit, & a water savings estimate for Standard vs Efficient water use.

Based on the plans provided, Table 1 contains a supply fixture count, fixture water use and quantity in each type of unit. All Baessler Homes are built with WaterSense/Energy Star fixtures.

Table 1 – Fixture count and water use

Fixture Type	2-Bed Unit	3-Bed Unit	Standard Water Use (GPM)	WaterSense/Energy Star Water Use (GPM)
Faucets	3	5	2.2	1.5
Toilets	2	3	1.6	1.28
Shower/Bath	1	2	2.5	2.0
Dishwasher	1	1	6 gallons/cycle	4 gallons/cycle
Clothes Washer	1	1	20 gallons/cycle	14 gallons/cycle

Occupancy statistics of previous developments completed by Hines, Inc. indicate:

- 2 bedroom unit average 1.5 average occupants
- 3-bedroom unit there are 2.2 average occupants. Each occupant is factored at 100% each in water use calculations.
- A *normal occupant* uses water at an average rate. They fix leaks, but do not consciously make an effort to conserve water or adopt water conservation methods. The largest impact to their water use relies on the fixtures installed in their home.
- An *efficient* occupant is conscious of their water use and adopts methods to reduce water use. In addition to installing high efficiency fixtures and appliances they also limit shower times, only run appliances when full, collect cold water when running faucets, showers and baths for other uses around the house and actively track their water use.

Colorado Office: 323 West Drake Road, Suite 204, Fort Collins, Colorado 80526 / Phone: 970.282.1800 / Fax: 970.226.4662
Arizona Office: 1110 E. Missouri Avenue, Suite 380, Phoenix, Arizona 85014 / Phone: 602.240.9800 / Fax: 602.240.9890
National: 800.295.0807

PER PERSON/DAY WATER USE BASED ON FIXTURES, USE AND OCCUPANTS

Table 2 contains typical daily water use activities, frequencies and water use per occupant. These numbers are based on all units having WaterSense/Energy Star rated fixtures and appliances. The difference in the calculations is a comparison of a Normal Occupant versus an Efficient Occupant with the same rated fixtures.

Based on conservation efforts, surveys taken by water utilities in Colorado and water use data approximately 40% of users currently are efficient water users. To model water use more accurately water use between the normal water user and efficient water user are provided below.

In the months of October through April a seasonal dip to the average water use occurs. These months typically use 15% less water than May through September based on available usage data.

Table 2 – Water use per day per occupant

Activity	Frequency	Normal Occupant (Gallons)	Efficient Occupant Gallons)	Normal Daily Total (Gallons)	Efficient Daily Total (Gallons)
Toilet Flushing	2	1.28	1.28	2.56	2.56
Shower	1	16	10	16	10
Bath	1	45	30	6.43	4.29
Handwashing	4	1	0.5	4	2
Teeth Brushing	2	2	0.5	4	1
Cooking	2	2	1	4	2
Dishwasher	1	12	4	12	4
Laundry	2	16	14	4.57	4
Miscellaneous	1	4	2	4	2
TOTALS				57.56	34.4

Table 2 Notes:

1. The use amounts for bathing have been expressed as weekly and have been adjusted by dividing 7 to get daily water use amounts.
2. The use amount for dishwater use for the Normal Occupant assumes standard cycle and pre-rinse setting use. The efficient occupant uses a shorter wash cycle & scrapes food from dishes.
3. The laundry frequency is derived from 300 average laundry loads per year for a family of four. The Normal Occupant uses a cycle which fills the machine automatically, the efficient occupant adjusts the water level for each load.
4. The miscellaneous category includes water used for general clean up, drinking, watering indoor plants, & related ancillary uses.

Table 3 provides the daily estimated water use for 2-bedroom units, based on occupant type.

Table 3 – 2 Bedroom unit daily water use

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal (60%)	1.5	86.3	31,514	0.0967
Efficient (40%)	1.5	51.6	18,834	0.0578
Average	1.5	72.4	26,442	0.0811

Table 4 provides the estimated daily water use for 3-bedroom units, based on occupant type.

Table 4– 3 Bedroom unit daily water use

Occupant Type	# of persons	Daily Water Use	Annual Water Use (Gal)	Annual Acre Feet (AF)
Normal	2.2	126.6	46,221	0.1418
Efficient	2.2	75.68	27,623	0.0848
Average	2.2	106.3	38,782	0.1190

Colorado Water Planning and Analysis
Per Capita Water Use Research and Identification

June 2020
By
Nate Hines, President, Hines, Inc.
Edward Wranosky, Project Engineer, Hines, Inc.

BACKGROUND

Exceedingly high raw water costs have made it increasingly difficult to develop new properties along the Front Range of Colorado. The cost of raw water shares, which must be purchased and dedicated to the potable water provider, has risen to historic highs & threatens to price out many development projects & nearly eliminate housing affordability.

It is common for a municipality or water provider to require the developer to dedicate shares of water to meet future water needs of a dwelling unit. Many Front Range water providers require a percentage of an acre foot of water for each dwelling unit. Often up to one full acre foot of water is required. The price of water can vary depending on the quality and type of water share presented, however the average cost typically ranges from from $50,000 to $80,000 per acre foot. Just 10 years ago the average share price was less than $10,000.

This exponential increase in price for water per housing unit has driven this research into the underlying water dedication assumptions to verify there is a reasonable match between water dedication requirements and actual dwelling unit water use.

The following data and study information indicates the following:

- Historic raw water dedication requirements are extraordinarily high when compared to actual use in dwelling units
- Hines presents data gathered from several state & national sources, from several Colorado communities providing year over year water use data, & a model water efficiency community
- Additionally, Hines has compiled an Actual Water Use Case Study based on User Count, Fixture, & Dwelling Unit size which clearly validates the study information presented above
- Water use cases have been presented as Standard, Efficient users for ease of comparison
- The baseline comparison calculation is gallons per person per day

WATER USE SUMMARY

Dwelling unit size and the number of inhabitants impacts total residential dwelling unit water use. Historically, water use is based on the number of bedrooms per housing unit. This water use assumption is evident in the equation for sizing septic systems for rural homes without sanitary sewer availability. This same formula basing water use on the bedrooms per dwelling unit is translated into inhabitants for residential homes served by potable water systems and public sanitary sewer.

One Acre Foot of water yields 325,850 gallons. If we assume one-acre foot of water required per dwelling unit, this equates to 890 gallons per day available for residential water use. Two residents would have access to 445 gallons per day per resident. 1.5 residents could potentially utilize 590 gallons per person per day.

EVALUATION

HISTORIC WATER USE ESTIMATE CALCULATIONS

An indoor water use estimate popularized in the 1970's by the American Society of Civil Engineers[1] project engineers and surveys of household water use is estimated 120 gallons per person per day. This estimate of use is still used today to determine water requirements per dwelling unit. USGS has published significant data[2] indicating an historic average use of 80-100 gallons per person per day. The U.S. Census Bureau reports that the average Colorado residence is 2.49 persons per home[3], this would yield a total residential daily water use of 300 gallons per day – equivalent to 1/3rd of an acre-foot and often well below the required water dedication.

CURRENT WATER USE ESTIMATE CALCULATIONS

Per capita water use has been dropping precipitously the past 50 years due to increasingly efficient water use fixtures, a reduction in total persons per home, & other domestic trends such as an increase in dual person working families. Current national studies[4] indicate that standard household daily water use is 126 gallons per day. Assuming household with 2.49 persons, this indicates the standard water user utilizes 50 gallons of water use per person per day.

This is supported by Colorado specific water use information. Denver Water[5], following an extensive review of residential water use has set a moderate efficiency target for each resident of 40 gallons per person per day. It is important to note that this represents an expected efficiency achieved through the use of WaterSense[6] fixtures in homes.

Hines has reviewed year over year data compiled by several Front Range communities which indicate the daily per person interior water use ranges of 30 gallons/day – 60 gallons/day (note the larger range includes exterior landscape irrigation).

Colorado State Statute, Ch. 384, Consumer and Commercial Transactions specifically address a ban on non-watersense fixtures, it states:
6-7.5-102. Low-efficiency plumbing fixtures. (1) EFFECTIVE SEPTEMBER 1, 2016, A PERSON SHALL NOT SELL A NEW LOW-EFFICIENCY PLUMBING FIXTURE IN COLORADO. (2) THIS SECTION DOES NOT PREEMPT ANY ACTION OF A CITY, COUNTY, OR CITY AND COUNTY THAT PRESCRIBES ADDITIONAL OR MORE RESTRICTIVE WATER CONSERVATION REQUIREMENTS AFFECTING THE SALE, INSTALLATION, OR USE OF PLUMBING FIXTURES IF THE REQUIREMENTS COMPLY WITH THE STANDARD SPECIFIED IN SUBSECTION (1) OF THIS SECTION.

In examining an existing subdivision built in 2015, the Revive Community, in North Fort Collins provides data for an Efficiency Water Use case study. The community consists of townhomes with an average of 2 bedrooms & 2 bathrooms per unit. Larger duplex units include 2 or 3 bedrooms and 4 baths. All units have been fitted and maintained with EPA Certified WaterSense fixtures. Multiple year analysis[7] of this development indicates:

- Townhome daily water use of 29 gallons per day per resident
- Duplex daily water use of 35 gallons per day per resident

PROPOSED WATER USE MODIFICATIONS

Below is a summary of typical of residential units which could be served by one acre foot of water based on data presented above.

Average or Larger Dwelling Unit Water Use Estimate

60 gallons/person/day x **1.5** residents/dwelling unit = **90** gallons/day
90 gallons/day **x 365** days/year **= 32,850** gallons/year
32,850 gallons per year **÷ 7.4805** gallons/cf **= 4,391.406** cf/residential unit
43560 cf/acre foot **÷ 4,391.406** cf/residential unit **= 10** (9.92) residential units per Acre Foot

Efficient or Small Dwelling Unit Water Use Estimate

40 gallons/person/day x **1.5** residents/dwelling unit = **60** gallons/day
90 gallons/day **x 365** days/year **= 21,900** gallons/year
21,900 gallons per year **÷ 7.4805** gallons/cf **= 2,927.604** cf/residential unit
43560 cf/acre foot **÷ 2,927.604** cf/residential unit **= 15** (14.9) residential units per Acre Foot

Please note that residential unit usage may change based on both efficiency metrics and size of dwelling unit.

RECOMMENDATION

Based on the information presented above, it is clear that many, current raw water dedication requirements far exceed actual usage rates. They increase the expense of development and in many cases are cost prohibitive. This directly effects the affordability of housing on the Front Range of Colorado. Depending on the raw water dedication requirements of the subject municipality or water provider, a significant reduction may be available which would reduce overall costs for each home, identify water conservation opportunities, & earmark said waters for future use, population expansion, or drought preparation.

References:

Hines, Inc., 323 West Drake Road, Suite 204, Fort Collins, CO 80526

1. *ASCE – Manuals and Reports on Engineering Practice – No.37 (WPCF Manual of Practice No.9), Printed 1970, Headquarters of the Society, 345 East 47th Street, New York, New York, 10017*
2. *https://www.usgs.gov/special-topic/water-science-school/science/water-qa-how-much-water-do-i-use-home-each-day?qt-science_center_objects=0#qt-science_center_objects*
3. *https://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn139.html#:~:text=The_average_household_size_was,30.3_percent_that_were_rented.*
4. *https://www.awwa.org/Portals/0/AWWA/ETS/Resources/WaterConservationResidential_End_Uses_of_Water.pdf?ver=2016-04-14-14-135024-200*
5. *https://www.denverwater.org/sites/default/files/water-efficiency-plan.pdf*
6. *https://wwwhttps://www.epa.gov/watersense/watersense-products.*
7. *Information provided by Revive community management*

Magaly Morales-Tejada

From: Jose Gonzalez <jgonzalez@procodeinc.net>
Sent: Thursday, May 5, 2022 11:56 AM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006
Attachments: 000-Referral-Distribution-Sheet LUP2022-0006 Building.pdf

No concerns.

Thank you

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORT_LUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas *distribution* facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

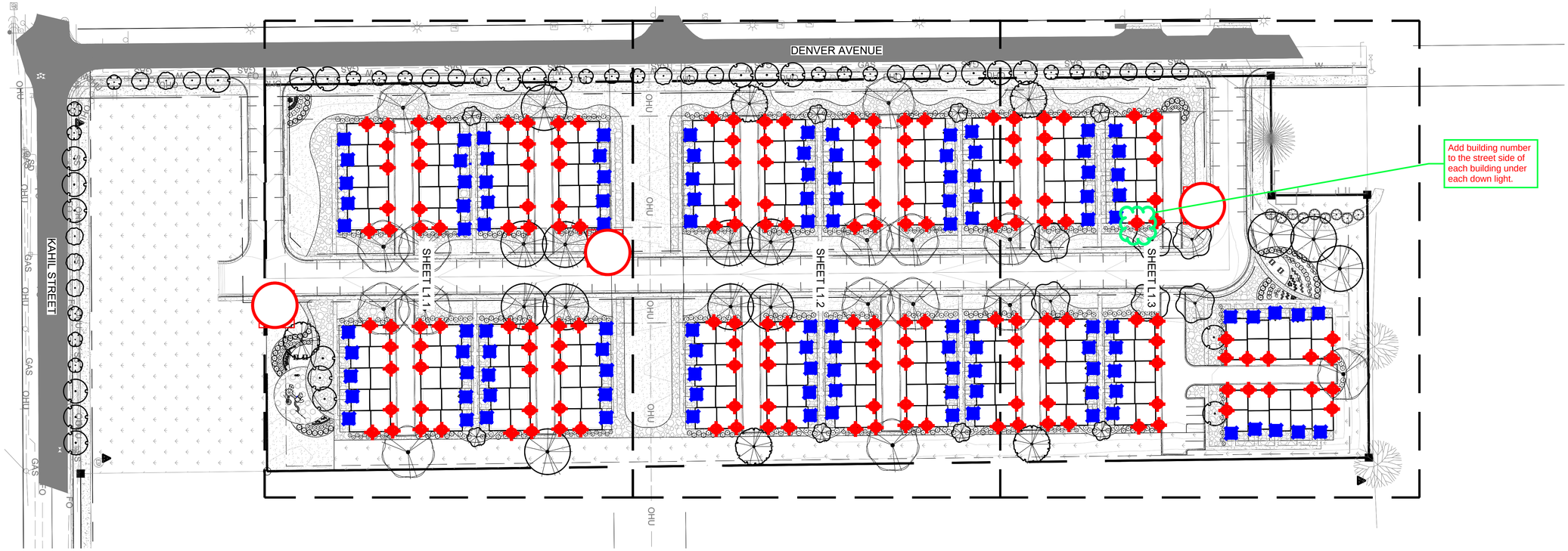
PSCo also has existing natural gas *distribution* facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

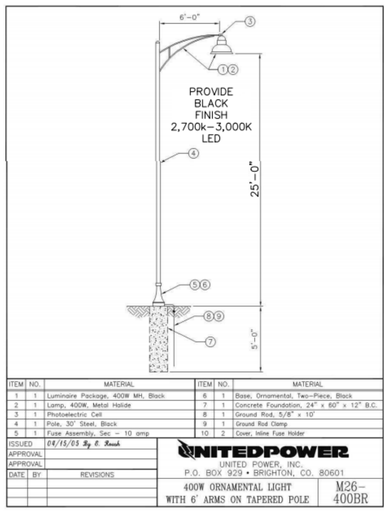
As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com



STREET LIGHT PER UNITED POWER (M26-400BR)
(Detail to right)



ITEM	NO.	MATERIAL	ITEM	NO.	MATERIAL
1	1	Luminaire Package, 400W MH, Black	6	1	Base, Ornamental, Two-Piece, Black
2	1	Lamp, 400W, Metal Halide	7	1	Concrete Foundation, 24" x 60" x 12" B.C.
3	1	Photoelectric Cell	8	1	Ground Rod, 5/8" x 10'
4	1	Pole, 30' Steel, Black	9	1	Ground Rod Clamp
5	1	Fuse Assembly, Sec - 10 amp	10	2	Cover, Inline Fuse Holder

ISSUED	04/15/05 By: R. Kanuk
APPROVAL	
APPROVAL	
DATE	BY REVISIONS

UNITEDPOWER
UNITED POWER, INC.
P.O. BOX 929 • BRIGHTON, CO. 80601
400W ORNAMENTAL LIGHT WITH 6' ARMS ON TAPERED POLE
M26-400BR

KICHLER CHESAPEAKE WALL LIGHT DETAIL W/ SATCO S21713 BULB
(Details below)

Chesapeake™ 10.25" 1 Light Wall Light Black 9774BK

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SPECIFICATIONS

Certifications/Qualifications	
	www.kichler.com/warranty
Dimensions	
Base Backplate	4.50 DIA
Extension	6.25"
Weight	1.75 LBS
Height from center of Wall opening (Spec Sheet)	2.25"
Height	10.25"
Width	5.50"
Light Source	
Lamp Included	Not Included
Lamp Type	A19
Light Source	Incandescent
Max or Nominal Watt	60W
# of Bulbs/LED Modules	1
Socket Type	Medium
Socket Wire	105"
Mounting/Installation	
Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount
Mounting Weight	1.75 LBS

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	Clear Beveled
Primary Material	CAST ALUMINUM
Product/Ordering Information	
SKU	9774BK
Finish	Black
Style	Traditional
UPC	783927010429
Finish Options	
Black	
Black	
White	

ALSO IN THIS FAMILY



SATCO | NUVO

Project Name

Location | Prepared By



SATCO S21713

7.5A19/CL/LED/E26/27K/120V/4PK

Notes

General	
Status	Active
Watts	7.5
Incandescent Equivalent	60
Volts	120V
Shape	A19
Base	Medium
ANSI Base	E26
Finish	Clear
CCT (Kelvin)	2700
Temperature	Warm White
CRI	83
Lumens	800
Beam Spread	360
Dimmable	Yes - Dimmable
Hours Rated	15000
Lamp Type	Type A
Technology	LED
Electrical	
Power Factor	0.9
Operating Temperature	-20C (-4F) to a maximum of +45C (+113F)
Physical	
MOL	4
MOD	2.38
Additional Information	
Rated For Enclosed Fixture	Yes
Warranty	3 Year Limited
Compliance	
Safety Listing	cULus
Location Rating	Damp
Energy Star	Yes
ES Unique ID	ESID-2331352
California Status	Non-Compliant
Nevada Status	Lawful for sale in Nevada
RoHS Compliant	Yes
SDS Sheet	LED_Lamp

KICHLER DOWNLIGHT GENII 300K T24 LED FLUSH MOUNT
(Detail below)

Downlight Gen II 3000K T24 LED Flush Mount White 43848WHLED30T

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SPECIFICATIONS

Certifications / Qualifications	
Commercial Grade	Yes
Certifications/Qualifications	
ADA Compliant	Yes
Energy Star	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty
Dimensions	
Base Backplate	7.50 DIA
Weight	0.50 LBS
Height from center of Wall opening (Spec Sheet)	3.75"
Height	1.25"
Width	7.50"
Electrical	
Input Voltage	Single(120)V
Supply Wire (Degrees)	90
Light Source	
Delivered Lumens	1000
Dimmable	Yes
Dimmable Notes	This LED is compatible with most standard incandescent dimmers, LED dimmers, and electronic low voltage dimmers. For more information, go to Kichler.com/dimming.
Equivalent Light Source	Incandescent
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	18.5W
# of Bulbs/LED Modules	1
Mounting/Installation	
Mountable on Wall or Ceiling	Yes
Interior/Exterior	Interior
Location Rating	Wet
Mounting Style	Flush Mount
Mounting Weight	0.50 LBS
Photometrics	
Color Rendering Index	90
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES

Housing	
Diffuser Description	White Polycarbonate
Primary Material	STEEL
Product/Ordering Information	
SKU	43848WHLED30T
Finish	White
Style	Other
UPC	783927531702
Finish Options	
Brushed Nickel	
Olde Bronze	
White	



ALSO IN THIS FAMILY



THE FLATS AT LUPTON VILLAGE

PRELIMINARY PLAT PUD

FORT LUPTON, CO

PREPARED BY:

ripleydesign
LANDSCAPE ARCHITECTURE, LAND PLANNING
419 Canyon Ave. Suite 200 Fort Collins, CO 80521
phone 970.224.5828 | fax 970.225.6657 | www.ripleydesigninc.com

APPLICANT

BEASSLER DEVELOPMENT, LLC.
Andrew Gerk
3780 W. 10th Street
Greeley, CO 80634
p. 970.573.7033

LANDSCAPE ARCHITECT

RIPLEY DESIGN INC.
Project Manager
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828
f. 970.225.6657

CIVIL ENGINEER

LANDONE ENGINEERING, LLC
Jeremy Goetsch
361 71st Avenue
Greeley, CO 80634
p. 970.443.9547

NORTH SCALE: 1"=80'-0" (0, 40, 80, 160)

ORIGINAL SIZE 24X36

ISSUED

No.	DESCRIPTION	DATE
01	SKETCH PLAT	10/29/2021
02	PRELIMINARY PLAT PUD	02/21/2022

REVISIONS

No.	DESCRIPTION	DATE
01	CITY COMMENTS	01/17/2022

LIGHTING PLAN

SEAL:

ENTITLEMENT DRAWINGS NOT FOR CONSTRUCTION

PROJECT No.:	R21-050
DRAWN BY:	KT
REVIEWED BY:	KT

DRAWING NUMBER:

L1.0 OF 5

Plotted By: Ngoc Vu **Layout:** Overall Landscape Plan **Printed On:** 2/18/2022 9:04 AM **File Name:** L2.0 Landscape Plan.dwg

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 05/10/2022
Project name: Flats at Lupton Village
Project address: Kahil & Denver Ave., Fort Lupton, CO 80621
FLFPD Project # R2022-022
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral for **Flats at Lupton Village** located at **Kahil & Denver Ave,** Fort Lupton, CO 80621. The referral was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The plan review Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*
3. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 8 inches (101.6 mm) high.

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. ~~LUP2021-0029~~ & PLAN No. ~~SPL2021-0001~~ LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

PROPERTY DESCRIPTION (PER TITLE COMMITMENT No. FCC25171398-2)

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET.

DEDICATION

Know all men by these presents, that we, Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of the land described herein, have caused said land to be laid out and platted under the name of Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION and do hereby dedicate to the City of Fort Lupton and it's licensees for public use forever all streets, alleys and utility easements as indicated hereon, in compliance with the City of Fort Lupton Subdivision Regulations and by contractual agreement, the landowners shall bear all expenses involved in improvements.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

OWNER'S APPROVAL

Know All Men By These Presents, that Fort Lupton Commercial, GP, LLP and Baessler Development LLC, being the owners of

the land described herein, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Fort Lupton Commercial, General Partnership, L.L.P.
By: Realty Funding Source, LLC, as Partnership Manager,
by and through ~~William J.~~ Johanningmeier, on behalf of
JMeier, Inc. Managing Member

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

by Fort Lupton Commercial, General Partnership, L.L.P. by Realty Funding Source, LLC, as Partnership Manager, by and through ~~William~~ J. Johanningmeier, on behalf of JMeier, Inc. Managing Member

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public

ary Public

*IN WITNESS WHEREOF, we have hereunto set our hands and seals this_____ day of_____ , 20____ .

_____

Owner: Baessler Development LLC
By: Andrew J. Gerk As: ~~Executive~~ Vice President

sp.

STATE OF _____)
)ss
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____day of _____, 20 ____

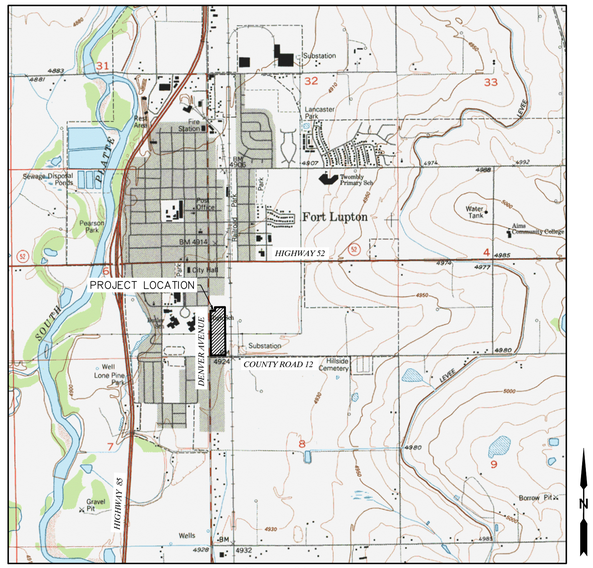
by Baessler Development LLC, Andrew J. Gerk as ~~Executive~~ Vice President

sp.

Witness my hand and official seal.

My commission expires _____

_____
Notary Public



VICINITY MAP
SCALE – 1"=2000'

MAYOR'S CERTIFICATE

This is to certify that a plat of the above-described property was approved by Resolution No. 2022_____ of the City of Fort Lupton passed and adopted on the ____ day of _____ 20____ and that the Mayor of the City of Fort Lupton, as authorized by said resolution on behalf of the City of Fort Lupton, hereby acknowledges and adopts the said plat upon which this certificate is endorsed for all purposes indicated thereon.

_____
Mayor

Attest:

_____
City Clerk
(Seal)

CITY ADMINISTRATOR'S APPROVAL

Approved this _____day of _____, 20 _____.

_____
City Administrator

CITY WATER AND SEWER DEPARTMENT APPROVAL

Approved this _____day of _____, 20 _____.

_____
Director of Public Works

CITY ENGINEER'S APPROVAL

Approved this _____day of _____, 20 _____.

Accepted by: _____
City Engineer

DESCRIPTION (AS SURVEYED)

A parcel of land being that parcel of land described in Warranty Deed recorded August 13, 1974 at Reception No. 1642661 within the records of the Weld County Clerk and Recorder and being a portion of the West Half of the Southwest Quarter (W1/2SW1/4) of Section Five (5), Township One North (T.1N.), Range Sixty-six West (R.66W.) of the Sixth Principal Meridian (6th P.M.), City of Fort Lupton, County of Weld, State of Colorado, being more particularly described as follows;

BEGINNING at the Southwest corner of Section 5 and assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

THENCE North 00°30'45" West along the West line of the SW1/4 of Section 5 a distance of 1275.86 feet;
THENCE North 89°38'25" East a distance of 155.05 feet
THENCE North 00°18'46" West a distance of 99.99 feet;
THENCE North 89°39'07" East a distance of 274.91 feet to the Westerly right-of-way line of the Union Pacific Railroad;
THENCE South 00°42'16" East along said Westerly right-of-way line a distance of 1376.07 feet to the South line of the SW1/4 of said Section 5;
THENCE South 89°40'24" West along said South line a distance of 434.91 feet to the Southwest corner of said Section 5 and to the POINT OF BEGINNING.

Less and Except the South and West Thirty (30) feet thereof.

Said parcel of land contains 12.15 Acres (529,309 sq.ft.), more or less, and is subject to any rights-of-way or other easements of record as now existing on said described parcel of land.

UTILITY MAINTENANCE STATEMENT

All public water, storm sewer and sanitary sewer mains and appurtenances located in public ROW shall be maintained by the City of Fort Lupton Public Works Department. All public water, storm sewer, sanitary sewer mains and appurtenances under private drives are located in utility easements. City is responsible for maintenance of these water, storm and sanitary sewer facilities. City is not responsible for repair or replacement of private drive, curb and gutter or landscaping damaged during utility repair or maintenance.

SURVEYOR'S CERTIFICATE

I, Jason S. Allee, a duly registered land surveyor in the State of Colorado, do hereby certify that this Final Plat of THE FLATS AT LUPTON VILLAGE SUBDIVISION was performed by me or under my direct supervision, and that this Plat has been prepared in compliance with all applicable laws of the State of Colorado at the time of this survey and within my control, and is accurate to the best of my knowledge, information and belief.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S IMPROVEMENT CERTIFICATE

I hereby certify that, on the date shown, a field survey was conducted under my supervision of the above-described property, and that all building improvements, easements and rights-of-way in evidence or known to me are correctly shown on the above plat. I further certify that there are no encroachments by and/or on this property, unless otherwise noted.

Sheet 1 of 2

_____
Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

SURVEYOR'S NOTES

1. Total Surveyed Area: 12.15 Acres (±529,309 sq.ft.).

2. BASIS OF BEARINGS AND LINEAL UNIT DEFINITION:

Assuming the South line of the SW1/4 of said Section 5 as monumented by a #6 rebar at the West end and by a #6 rebar with an illegible 2.5" aluminum cap at the East end, as bearing North 89°40'24" East, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983, a distance of 2631.31 feet, with all other bearings contained herein being relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

3. Entire property is in Flood Zone X, areas of minimal flood hazard per FEMA Flood Map Number 08123C210E, effective on 01/20/2016. The referenced Federal Insurance Rate Map was not available for viewing. The FIRMette states the map is "Not Printed".

4. Current zoning is C-1 (General Commercial), per the City of Fort Lupton Interactive Zoning Map.

5. The 75' PSCO right-of-way easement is shown in the title commitment as being granted by an instrument recorded December 5, 1947 under Reception No. 1019613. the reception no. could not be found within the records of the Weld County Clerk and Recorder via the ICRIS self service document research system.

6. NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PROJECT CONTACTS:

DEVELOPER:
Lupton Village Land Developers, LLC
3780 W. 10th Street, Suite 200
Greeley, CO 80634
Ph: (970)702-2009
Andrew J. Gerk

ENGINEER:
LandOne Engineering LLC
361 71st Avenue
Greeley, CO 80634
Ph: (970)443-2311
Jeremy Goetsch, PE

SURVEYOR:
Lat40°, Inc.
6250 W. 10th Street, Unit 2
Greeley, CO 80634
Ph: (970)515-5294
Jason Allee, PLS

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

1
SHEET 1 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado

SW 1/4

SCALE – 1"=30'

SOUTH QUARTER CORNER
SECTION 5, T.1N., R.66W.
FOUND #6 REBAR WITH 2.5"
 illegible ALUMINUM CAP
1.0' BELOW ROAD SURFACE

FOUND #6 REBAR

UNION PACIFIC RAILROAD
(400' Right-of-Way)

S 00°42'16" E 1376.07'
1151.07'
75.00'
382.04'
400'
182.50'
30.00'
12.50'
30'
30'

S 00°30'45" E 491.00'
S 00°30'45" E 77.36'
S 00°30'45" E 276.00'
N 28°21'04" W 86.35'

LOT 41 ±1,174 sq.ft.	LOT 40 ±1,181 sq.ft.	LOT 39 ±1,181 sq.ft.	LOT 38 ±1,181 sq.ft.	LOT 37 ±1,174 sq.ft.	LOT 36 ±1,174 sq.ft.	LOT 35 ±1,181 sq.ft.	LOT 34 ±1,181 sq.ft.	LOT 33 ±1,181 sq.ft.	LOT 32 ±1,174 sq.ft.	LOT 31 ±1,174 sq.ft.	LOT 30 ±1,181 sq.ft.	LOT 29 ±1,181 sq.ft.	LOT 28 ±1,181 sq.ft.	LOT 27 ±1,174 sq.ft.	LOT 26 ±1,174 sq.ft.	LOT 25 ±1,181 sq.ft.	LOT 24 ±1,181 sq.ft.	LOT 23 ±1,181 sq.ft.	LOT 22 ±1,174 sq.ft.
LOT 21 ±1,174 sq.ft.	LOT 20 ±1,181 sq.ft.	LOT 19 ±1,181 sq.ft.	LOT 18 ±1,181 sq.ft.	LOT 17 ±1,174 sq.ft.	LOT 16 ±1,174 sq.ft.	LOT 15 ±1,181 sq.ft.	LOT 14 ±1,181 sq.ft.	LOT 13 ±1,181 sq.ft.	LOT 12 ±1,174 sq.ft.	LOT 11 ±1,174 sq.ft.	LOT 10 ±1,181 sq.ft.	LOT 9 ±1,181 sq.ft.	LOT 8 ±1,181 sq.ft.	LOT 7 ±1,174 sq.ft.	LOT 6 ±1,174 sq.ft.	LOT 5 ±1,181 sq.ft.	LOT 4 ±1,181 sq.ft.	LOT 3 ±1,181 sq.ft.	LOT 2 ±1,174 sq.ft.

All lots: 53.00' wide; 22.15' and 22.29' deep; 32.00' between blocks; 8.00' between rows

N 00°30'45" W 491.00'
5' UTILITY EASEMENT
N 00°30'45" W 284.00'
S 89°29'15" W 111.17'
N 89°29'15" E 111.17'

-OUTLOT A-
3.19 Acres
(±138,840 sq.ft.)
UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

N 89°29'15" E 176.49'
S 89°29'15" W 111.17'

75' PSCO RIGHT-OF-WAY EASEMENT
NOTED IN RECEPTION No. 2453889,
RECORDED NOVEMBER 16, 1998

963.54'
S 00°30'45" E 987.80'
24.26'

-LOT 1-
1.52 Acres
(±66,238 sq.ft.)

~~LUPTON CIRCLE~~
(50' Right-of-Way)
1.60 Acres (±69,622 sq.ft.)

This will need to be re-named and will need a "South" directional prefix

N 89°29'15" E 100.00'
S 89°29'15" W 100.00'

N 00°30'45" W 919.78'

-OUTLOT B-
2.13 Acres
(±92,728 sq.ft.)
UTILITY, DRAINAGE, ACCESS & EMERGENCY ACCESS EASEMENT

N 44°29'15" E 22.46'

LOT 83 ±1,174 sq.ft.	LOT 84 ±1,181 sq.ft.	LOT 85 ±1,181 sq.ft.	LOT 86 ±1,181 sq.ft.	LOT 87 ±1,174 sq.ft.	LOT 88 ±1,174 sq.ft.	LOT 89 ±1,181 sq.ft.	LOT 90 ±1,181 sq.ft.	LOT 91 ±1,181 sq.ft.	LOT 92 ±1,174 sq.ft.	LOT 93 ±1,174 sq.ft.	LOT 94 ±1,181 sq.ft.	LOT 95 ±1,181 sq.ft.	LOT 96 ±1,181 sq.ft.	LOT 97 ±1,174 sq.ft.	LOT 98 ±1,174 sq.ft.	LOT 99 ±1,181 sq.ft.	LOT 100 ±1,181 sq.ft.	LOT 101 ±1,181 sq.ft.	LOT 102 ±1,174 sq.ft.
LOT 103 ±1,174 sq.ft.	LOT 104 ±1,181 sq.ft.	LOT 105 ±1,181 sq.ft.	LOT 106 ±1,181 sq.ft.	LOT 107 ±1,174 sq.ft.	LOT 108 ±1,174 sq.ft.	LOT 109 ±1,181 sq.ft.	LOT 110 ±1,181 sq.ft.	LOT 111 ±1,181 sq.ft.	LOT 112 ±1,174 sq.ft.	LOT 113 ±1,174 sq.ft.	LOT 114 ±1,181 sq.ft.	LOT 115 ±1,181 sq.ft.	LOT 116 ±1,181 sq.ft.	LOT 117 ±1,174 sq.ft.	LOT 118 ±1,174 sq.ft.	LOT 119 ±1,181 sq.ft.	LOT 120 ±1,181 sq.ft.	LOT 121 ±1,181 sq.ft.	LOT 122 ±1,174 sq.ft.

All lots: 53.00' wide; 22.15' and 22.29' deep; 32.00' between blocks; 8.00' between rows

S 00°30'45" E 494.00'
S 00°30'45" E 77.36'
S 00°30'45" E 284.00'
N 00°30'45" W 494.00'
N 00°30'45" W 284.00'
S 89°29'15" W 111.17'
N 89°29'15" E 111.17'

-OUTLOT B-

N 89°29'15" E 147.17'
S 89°29'15" W 215.17'

12.5' OF ADDITIONAL RIGHT OF WAY
(DEDICATED BY THIS PLAT)
0.47 Acres (±20,477 sq.ft.)

N 28°21'04" E 57.84'

880.78'
50.00'
157.54'
555.14'

12.5' OF ADDITIONAL RIGHT OF WAY
(DEDICATED BY THIS PLAT)
0.47 Acres (±20,477 sq.ft.)

N 00°30'45" W 1245.88'
1275.86'
30'
30'
30'
30'

N 00°30'45" W 2649.50'

~~DENVER AVENUE~~
(60' Right-of-Way)

S Denver Avenue

POINT OF BEGINNING
SOUTHWEST CORNER
SECTION 5, T.1N., R.66W.
FOUND BENT #6 REBAR
1.0' BELOW ROAD SURFACE
TO BE UPGRADED

S 89°40'24" W 404.81'
434.91'
392.27'

BASIS OF BEARINGS: N 89°40'24" E 2631.31'
COUNTY ROAD 12
(60' Right-of-Way)

Updated
Parcel 1470364000027
School District No. RE-8

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

2
SHEET 2 OF 3

Final Plat of

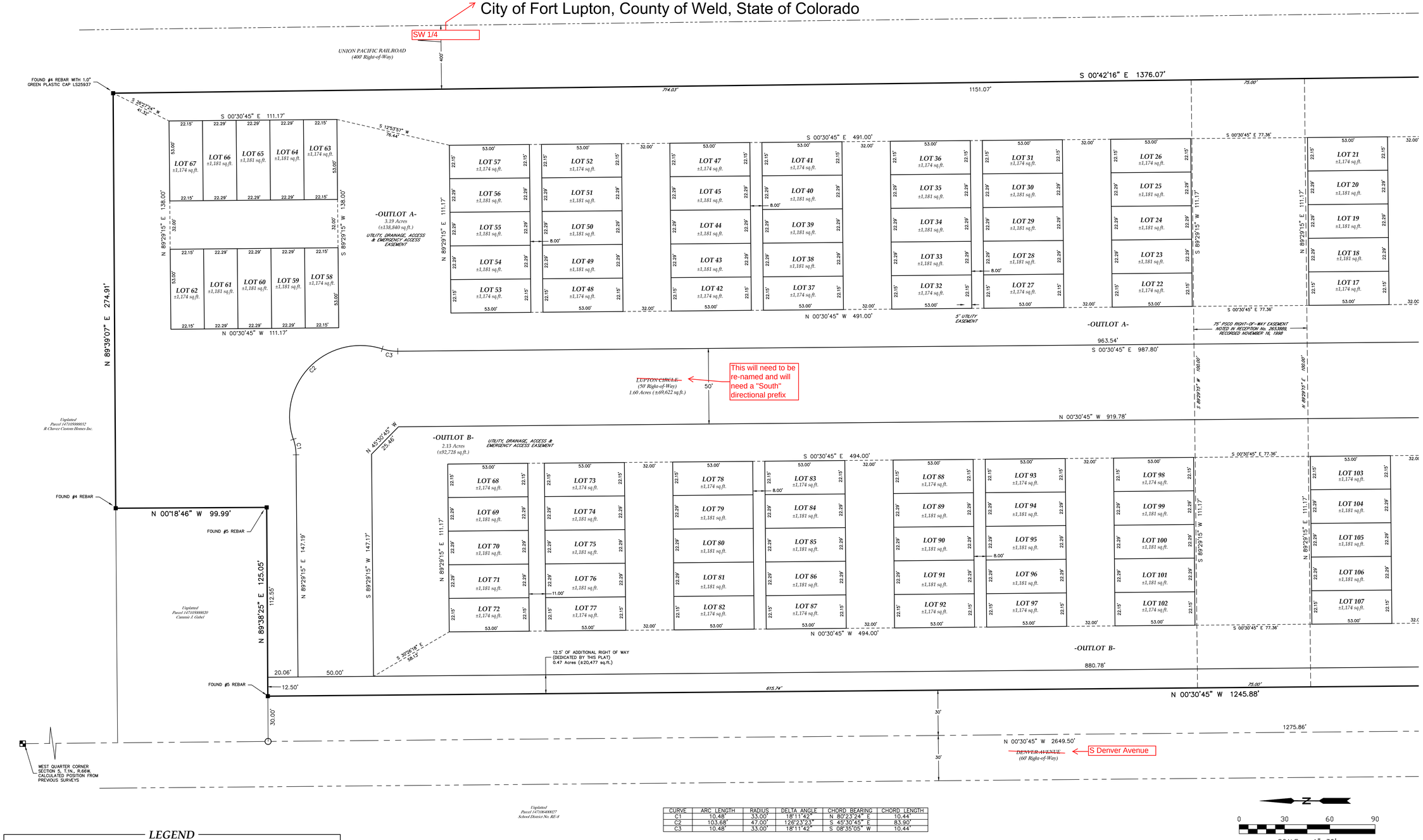
THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

LUP2022-0006 and FPL2022-0001

A Portion of the ~~West Half~~ of Section 5, Township 1 North, Range 66 West of the 6th P.M.,

City of Fort Lupton, County of Weld, State of Colorado



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'23"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

0 30 60 90

SCALE – 1"=30'

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970–515–5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3

SHEET 3 OF 3

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, May 25, 2022 3:21 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Friday, May 6, 2022 9:52 AM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Champion Xpress Car Wash LUP2022-0007

External Message - Please be cautious when replying or opening links or attachments in this email

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a special use permit being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/664.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 27, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!



Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 2, 2022 1:51 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Flats at Lupton Village LUP2022-0006

No law enforcement issues.

Chief John Fryar

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 2, 2022 12:04 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Flats at Lupton Village LUP2022-0006

Hello,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/663.

Any comments you consider relevant to this request would be appreciated. Please reply by **May 23, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 9, 2022 at 6:00 PM; and
- City Council: Monday, June 20, 2022 at 6:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

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CITY OF
Fort Lupton
EST 1836

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Jeremy Goetsch (Land One)

From: Roy Vestal

Date: May 24, 2022

Subject: Flats at Lupton Village LUP2022-0006
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Final Plat submittal. Be advised, review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Plat**
   a. Reservation of well pad site is required in the southeast corner of Lot 1.
   b. We will find the document and provide.
   c. Notes documenting "Private" infrastructure and maintenance responsibility will need to be added.

2. **Drainage**
   a. Drainage Analysis as submitted is acceptable.
   b. If the internal streets are accepted as public ROW, the HDPE may not be used for storm sewer. *Construction Standards - Section 5.44.01* - Only RCP for storm sewers is allowed in public ROW. *Drainage Criteria Manual Chapter 8 - "HDPE pipe is only permitted in privately owned and maintained installations."*

3. **Transportation**
   a. Additional ROW dedications are acceptable.

4. **Landscape / Grading** - *Chapter 2 Design Standards*
   a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
   b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

5. **Utilities**
    a. **Water - Chapter 3**
        i. City water main is located in S Denver Avenue.
        ii. Sheet 8 - Shows potable line connecting to the nonpotable water main.
        iii. **3.18.04 Sanitary Sewer Line Crossing Over A Waterline** *In all cases, regardless of vertical clearance, the sanitary sewer shall be encased in concrete a minimum of nine feet on each side of the centerline of the crossing or polyvinyl chloride pressure pipe in accordance with American Water Works Association C900, pressure class 305 psi may be used*. Sheets C9.1 and C9.2 - Designate sanitary sewer line at water line crossings as C900 pipe one solid stick of pipe centered on crossing.
        iv. Sheet C9.3 - 2" water service crossing shows as 15-feet deep?

    b. **Non Potable Irrigation**
        i. Landscape plans need to indicate intended irrigation plans. Overall Utility plan should show intended meter location and size.

    c. **Sanitary Sewer - Chapter 4**
        i. The hydraulic analysis needs to include downstream capacity analysis to determine effects on the existing system.
        ii. The City's sanitary sewer main does not extend east in Kahil. The manhole located at the corner of S Denver and Kahil is only stubbed out about 2-feet.
        iii. Sheet C9.2 - Show existing water main crossings in profile.
        iv. Sheet C9.1 and C9.2 - label invert out of existing manholes.
        v. ***4.14.01 General*** *- The minimum diameter for sanitary sewer mains shall be 8 inches*. Sheet C9.3 - If the pipe from SSMH8 to CO 10 is intended to be City maintained, it must be 8-inches and end in a manhole instead of a clean out. It is acceptable to leave as is, and it is considered a service line, which the City does not maintain.

    d. **Storm Sewer - Chapter 5**
        i. Sheet C13.4 - The existing storm drain in Kahil is not accurately depicted. The inlets on the south side cross Kahil and connect to the storm sewer along the north side. Sheet C8.0 correctly shows the existing storm sewer along Kahil.
        ii.

    e. **Roadway - Chapter 6**
        i. Ramp and cross walks required at Kahil and S Denver (E-W and N-S).

ii. Can S Denver have a consistent 2% cross slope? Provide centerline profile design with the 0.3% slope (seems like a close match to existing.
iii. The internal streets do meet the cross section requirements of public ROW, however, prior precedent has established these developments as being private streets. Planning Commission and City Council will have to accept as public ROW.
iv. *Section 6.33.00* A Pavement Design Report is required prior to roadway paving. City preferred pavement section is a composite section of asphalt surface with Class VI base.
v. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The northern most tree at the north drive access may be an issue. The 2 trees on each side of the southern access appear to be problematic.

f. Traffic Control - Chapter 8

i. The Traffic Study as submitted is acceptable.

6. **Public Improvement Agreement** – A Subdivision Improvements Agreement will be required for the construction of roadways, water, sewer and nonpotable water systems. See attached template.

7. A Geotechnical report for final pavement design will be required prior to paving.

There may be additional concerns as this design develops.

May 20, 2022

City of Fort Lupton
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: LUP-2022-0006 – Flats at Lupton Village

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Flats at Lupton Village. After review of the information, we have the following comments:

- It was unclear where it is intended to install electric. United Power requires continuous dry utility easements for reliable electric facility installation. This allows us to install electric facilities in a continuous manner for our loop feed which provides reliability.

  We prefer the separation of gas and electric. Typically, with electric in the rear of the subdivision lots. We will need 8' to 10' wide dry utility easements in the rear of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts.

  If gas and electric will be sharing an easement, we will need a 10' to 15' wide dry utility easements in the front of all lots. These utility easements will need to be on sides of lots abutting roads, and across tracts as well.

- Easements utilized by United Power cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

- **Tracts/Open Space/Parks** – United Power prefers dedicated blanket utility easement use within tracts as this gives us the opportunity to set above ground equipment, coordinated with the developer, and limit the impact to home lots. If Blanket utility easement(s) cannot be given, we will need a 10' to 12' wide dry utility easements along the perimeter of all tracts, along perimeter of tracts abutting roads, and through tracts between lots.

- **Streetlights** – When streetlight locations are identified in a subdivision, we need a 5' wide dry utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc. Please note, if we do not get these through the platting process, we will have to get individual ones during the design which will slow United Power's ability to start construction significantly.

- **Landscaping within a Utility Easement** - When landscaping in utility easements, please keep in mind that we can only have shallow rooting vegetation such as small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines. The trunk/base of the tree(s) should be minimum of 5' away from the underground electric line with no trees planted under overhead lines. Any landscaping should be a minimum clearance distance of 15' from the front and both sides of equipment such as transformers, and cabinets, etc. and five feet from the back to allow a backhoe if needed.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 23, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Alyssa Knutson and Todd Hodges

Re: The Flats at Lupton Village Rezone, PUD, Preliminary Plat, Final Plat
Case # LUP2022-0006

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a potential conflict** with the above captioned project. Public Service Company has existing electric *transmission* lines and associated land rights as shown within this property. Any activity including grading, proposed landscaping, erosion control or similar activities involving our existing right-of-way will require PSCo approval. Encroachments across Public Service Company's easements must be reviewed for safety standards, operational and maintenance clearances, liability issues, and acknowledged with a PSCo License Agreement to sketch plat, it is the responsibility of the property owner/developer/contractor to have this project assigned to a Land Rights Agent for development plan review and execution of a License Agreement via either the website at www.xcelenergy.com/rightofway or email at coloradorightofway@xcelenergy.com).

PSCo requests that 6-foot-wide dry utility easements are dedicated for natural gas *distribution* facilities to serve each lot. Will the gas meters possibly be banked?

PSCo also requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to the City of Fort Lupton for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

PSCo also has existing natural gas *distribution* facilities along the west property line. The property owner/ developer/contractor must complete the application process for any new natural gas service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document for new facilities – be sure to contact the Designer and request that they connect with a Right-of-Way and Permits Agent in this event.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to any construction.

Comment response requested.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

Sign Posting Affidavit
Flats at Lupton Village Preliminary & Final PUD
Project No. LUP2022-0006;
Plan Nos. PPL2022-0001; FPL2022-0001 & COZ2022-003



Facing S DENVER AVE



Facing WCR 12

I, MITCHELL NELSON hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 25 day of MAY, 2022.

Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Mitchell Nelson, this 25 day of May, 2022. Witness my hand and seal.

My commission expires 6/17/2023.

Notary Public

MELISSA WHEELER
Notary Public
State of Colorado
Notary ID # 20194022905
My Commission Expires 06-17-2023

(SEAL)

Public Notice

CITY OF FORT LUPTON
NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a Preliminary and Final PUD Plat known as the Flats at Lupton Village Preliminary and Final PUD Plat, located east and adjacent to South Denver Avenue and north and adjacent to County Road 12 within the City of Fort Lupton, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission on Thursday, June 9, 2022, at 6:00 P.M., and before the City Council on Monday, June 20, 2022, at 6:00 P.M. or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that City Hall is closed at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov.

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:
BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET

Legal Notice No. FLP634
First Publication: May 19, 2022
Last Publication: May 19, 2022
Publisher: Fort Lupton Press

Fort Lupton
COLORADO

CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 24th day of May, 2022, a true and correct copy of the foregoing Notice of Public Hearings and Site Plan Map for the Flats at Lupton Village PUD Preliminary and Final Plat Use Permit was sent via U.S. Mail, postage pre-paid, to the following addresses:

PUBLIC SERVICE COMPANY OF COLORADO
TAX SERVICES DEPT PO BOX 1979
DENVER, CO 802011979

ALLOUR LINDA L
605 1/2 S PARK AVE
FORT LUPTON, CO 806211230

ANGUIANO JORGE A
321 S PARK AVE
FORT LUPTON, CO 806211321

BISHOP RYAN
311 S DENVER AVE
FORT LUPTON, CO 806211309

CERETTO MICHAEL W
13144 COUNTY ROAD 12
FORT LUPTON, CO 806218348

CHEANG JUSTINE ALEXANDRA HUYNH
11 FEDERAL BLVD STE 5
DENVER, CO 802191544

CLARK NATHAN T
320 S PARK AVE
FORT LUPTON, CO 806211322

CROSS LAURENCE R
654 S DENVER AVE
FORT LUPTON, CO 806211202

DECHANT DUSTIN R
635 S PARK AVE
FORT LUPTON, CO 806211230

HOUSING AUTHORITY OF TOWN OF FT LUPTON
400 2ND ST
FORT LUPTON, CO 806211959

KESSLER KELLY L
326 S PARK AVE
FORT LUPTON, CO 806211322

MEYER JAMES E
328 S PARK AVE
FORT LUPTON, CO 806211322

MONK EDITH
610 S PARK AVE
FORT LUPTON, CO 806211231

MT CALVARY EVANGELICAL LUTHERN
650 S PARK AVE
FORT LUPTON, CO 806211231

PEINADO JESUS
243 S DENVER AVE
FORT LUPTON, CO 806211307

PUBLIC SERVICE CO OF COLO
TAX SERVICE DEPARTMENT PO BOX 1979
DENVER, CO 802011979

SCHOOL DIST No. RE-8
301 REYNOLDS ST
FORT LUPTON, CO 806211329

SEMROSKA RANDY W
333 S PARK AVE
FORT LUPTON, CO 806211321

DILLER TIMOTHY G
645 S PARK AVE
FORT LUPTON, CO 806211230

ESCARCEGA ARMANDO
803 2ND ST
FORT LUPTON, CO 806211804

FTL LAND ASSEMBLAGE LLLP
1295 MAIN ST UNIT 5
WINDSOR, CO 805505919

GABEL CAMMIE J
6192 SAGE AVE
FIRESTONE, CO 805045555

HANSEN RONALD D
644 S DENVER AVE
FORT LUPTON, CO 806211202

HELM ERICH
315 S DENVER AVE
FORT LUPTON, CO 806211309

HERNANDEZ JUAN
625 S PARK AVE
FORT LUPTON, CO 806211230

WHITE BUSHROD B
337 S PARK AVE
FORT LUPTON, CO 806211321

SHOCKLEY KATELIN B
312 S PARK AVE
FORT LUPTON, CO 806211322

SMITH NANCY MARGARET
329 S PARK AVE
FORT LUPTON, CO 806211321

SPURLIN SARBINA G
664 S DENVER AVE
FORT LUPTON, CO 806211202

TERRY PATRICIA L TRUST
1312 DENVER AVE
FORT LUPTON, CO 806212638

TORBET ROBERT P IV
305 S DENVER AVE
FORT LUPTON, CO 806211309

UNITED POWER INC
500 COOPERATIVE WAY
BRIGHTON, CO 806038728

WAMBOLT HERBERT H
1049 HOOVER AVE
FORT LUPTON, CO 806212619

FORT LUPTON COMMERCIAL
1540 MAIN ST
STE 218/303
WINDSOR, CO 80550

CITY OFFICIAL

Fort Lupton
COLORADO

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
www.fortluptonco.gov

Phone: 303.857.6694
Fax: 303.857.0351

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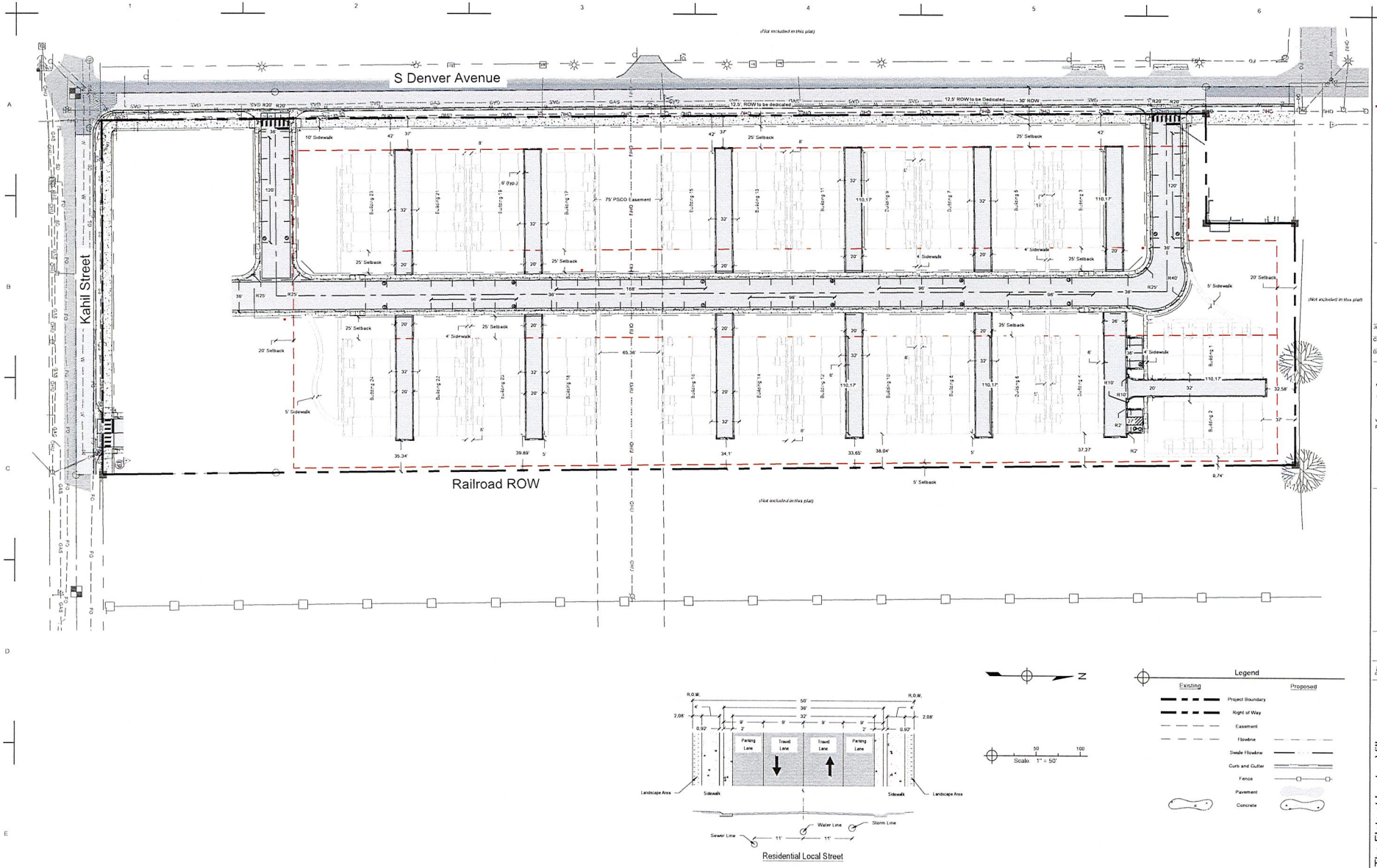
ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: FLATS AT LUPTON VILLAGE

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

THAT PART OF THE SW 1/4 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS:

BEGINNING AT THE SW CORNER OF SAID SW 1/4; THENCE N 00° 00' 00" E ON AN ASSUMED BEARING ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 1275.75 FEET TO A POINT 1374.60 FEET SOUTH OF THE NW CORNER OF SAID SW 1/4 OF SECTION 5; THENCE N 90° 00' 00" E A DISTANCE OF 155.00 FEET; THENCE N 00° 00' 00" E PARALLEL WITH THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 100.00 FEET; THENCE N 90° 00' 00" E A DISTANCE OF 275.20 FEET TO A POINT ON THE WESTERLY ROW LINE OF THE UNION PACIFIC RAILROAD; THENCE S 00° 12' 18" E ALONG SAID WESTERLY ROW LINE A DISTANCE OF 1377.02 FEET TO A POINT ON THE SOUTH LINE OF SAID SW 1/4; THENCE N 89° 50' 05" W ALONG SAID SOUTH LINE A DISTANCE OF 435.13 FEET TO THE POINT OF BEGINNING. LESS AND EXCEPT THE SOUTH 30 FEET AND THE WEST 30 FEET



Residential Local Street

N

Scale: 1" = 50'

Legend

Existing	Proposed
Project Boundary	
Right of Way	
Easement	
Flowline	
Swale Flowline	
Curb and Gutter	
Fence	
Pavement	
Concrete	

LANDONE engineering
361 71st Avenue, Suite 100
Greeley, CO 80634

PRELIMINARY NOT FOR CONSTRUCTION

Job Number: 21-031
Checked by: JG
Date: 04/20/2022

LandOne Engineering, LLC assumes no responsibility for existing utility locations (horizontal or vertical). The existing utilities shown on this drawing have been plotted from the best available information. It is however the responsibility of the contractor to verify the location of all the utilities prior to the commencement of any construction activities.

COLORADO 811 Know what's below. Call before you dig.

Rev. No.	Date	Revision Description
A	12/12/2022	1st Submittal to City
B	04/20/2022	2nd Submittal to City

The Flats at Lupton Village
Preliminary Plat
Fort Lupton, CO

Sheet C1.1

L:\Landone.co\21-031 The Flats at Lupton Village - Documents\CADD\Sheets\PUD\PUD Preliminary Plat 21-031.dwg, 4/12/2022 12:19:36 PM, Sam Boyd, LandOne Engineering

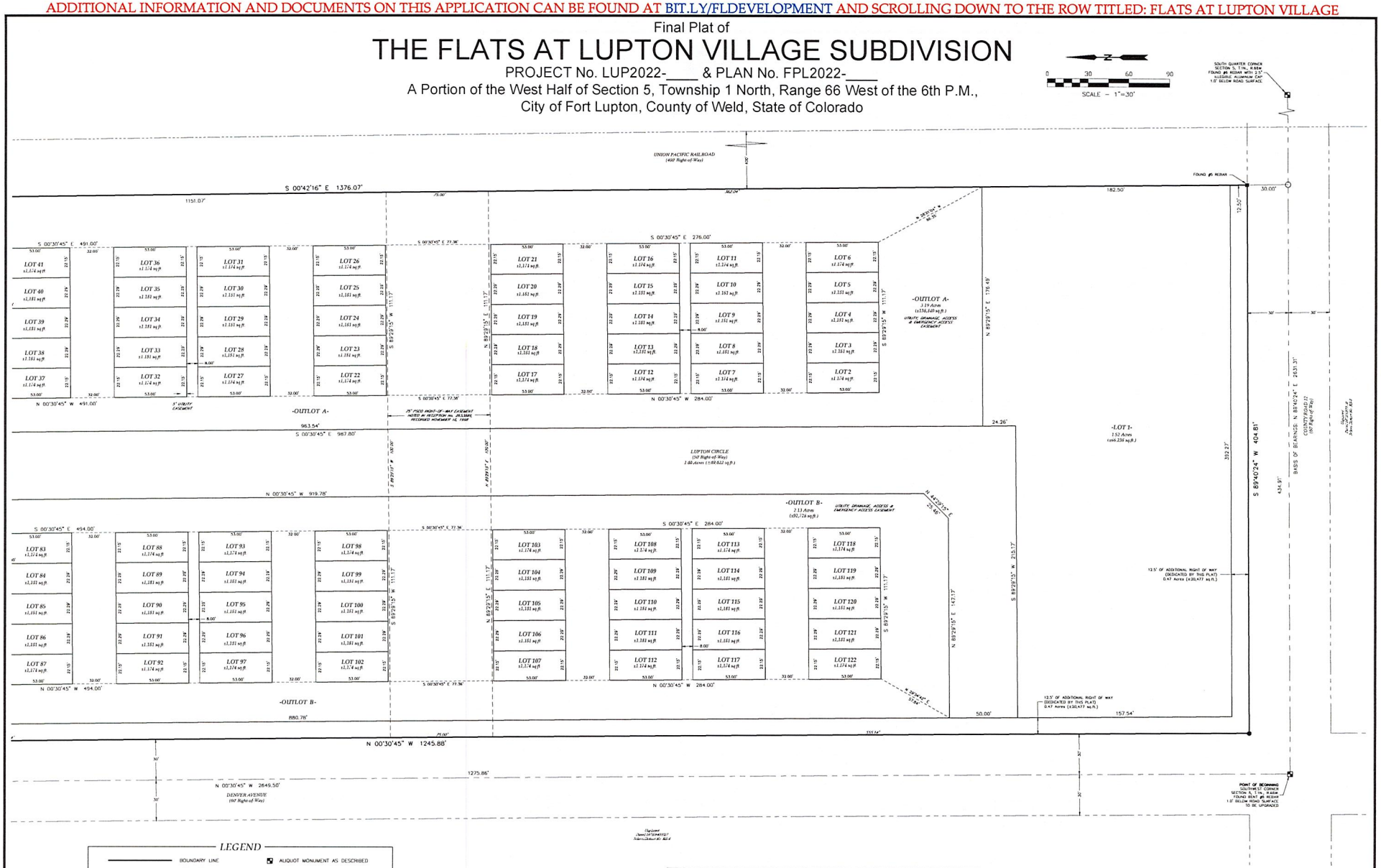
ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: FLATS AT LUPTON VILLAGE

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #:
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS: DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

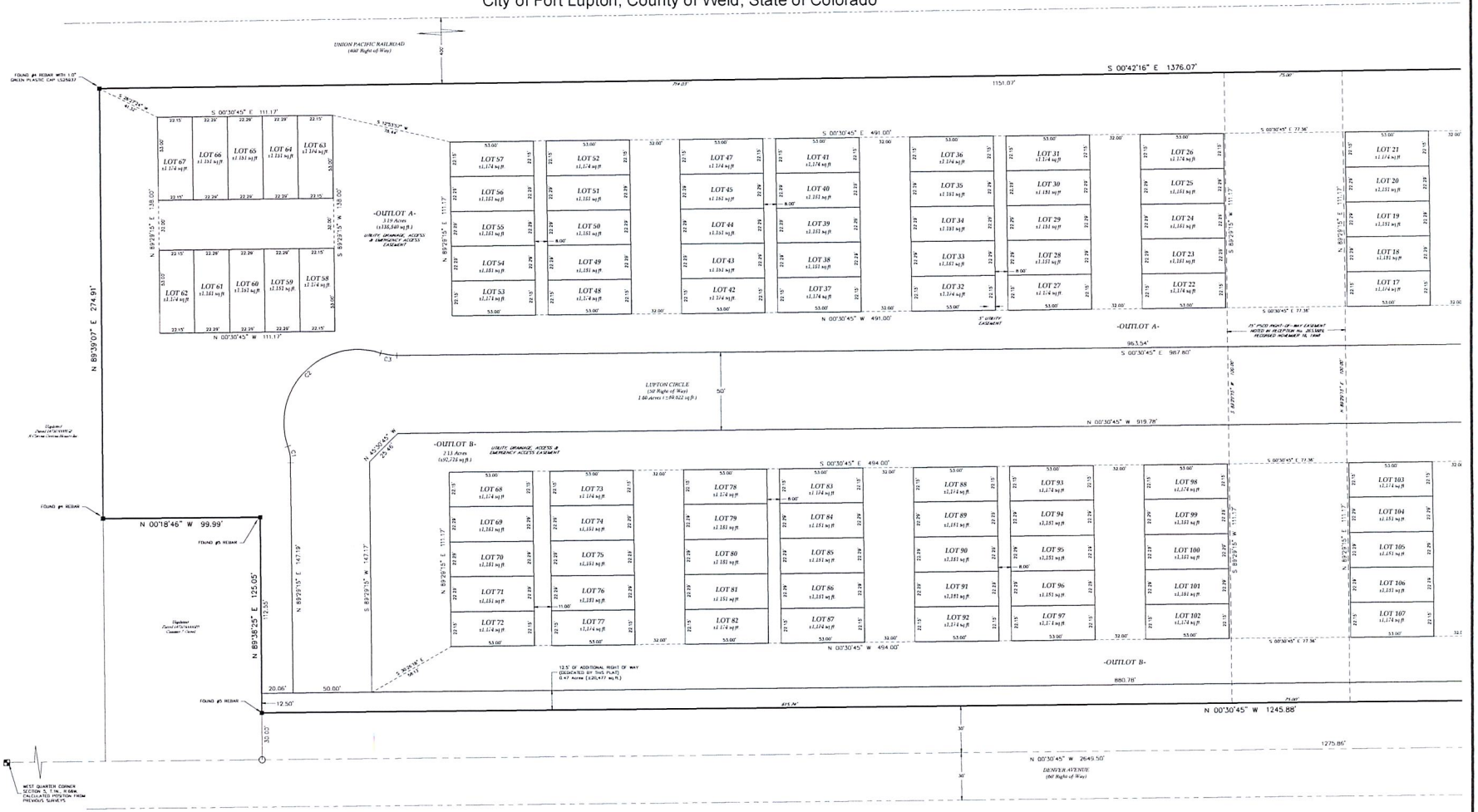
2
SHEET 2 OF 3

Final Plat of

THE FLATS AT LUPTON VILLAGE SUBDIVISION

PROJECT No. LUP2022-____ & PLAN No. FPL2022-____

A Portion of the West Half of Section 5, Township 1 North, Range 66 West of the 6th P.M.,
City of Fort Lupton, County of Weld, State of Colorado



CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	10.48'	33.00'	18°11'42"	N 80°23'24" E	10.44'
C2	103.68'	47.00'	126°23'21"	S 45°30'45" E	83.90'
C3	10.48'	33.00'	18°11'42"	S 08°35'05" W	10.44'

0 30 60 90

SCALE - 1"=30'

LEGEND

- BOUNDARY LINE
- LOT LINE
- EXISTING EASEMENT LINE
- SURVEY TIE
- SECTION LINE
- RIGHT-OF-WAY LINE
- ALIQUOT MONUMENT AS DESCRIBED
- BOUNDARY MONUMENT AS DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40, LS 38479
- CALCULATED POSITION

Sheet 2 of 2

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

Lat40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

DATE:	FILE NAME:	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT #
2/15/2022	2021233SUB	JP	JSA	AS NOTED	2021233

REVISIONS:	DATE:

THE FLATS AT LUPTON VILLAGE
FOR
LANDONE ENGINEERING
361 71ST AVENUE
GREELEY, CO 80634

3

SHEET 3 OF 3

City Council Meeting
Date: July 5, 2022
Staff: Planning Department

AM 2022-112
Consent Agenda ☐
Action Memorandum ☒
Public Hearing ☐

SUBJECT FOR DISCUSSION

A Resolution Approving a Final Plat, Known as the Cottonwood Greens PUD Filing Nos. 5 - 10. The Proposed Development is Located on the North Side of 9th Street, West of County Road 31, and the West and Northern Property Boundaries are Constrained by Fulton Ditch and 14th Street to the North. The Property is Approximately 75.6 acres With Existing PUD zoning. Proposed Uses Will Include 232 Single-Family Attached Residential Units.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

The applicant, Cottonwood Development Partners LLC, has applied for approval of a Final Plat, known as the Cottonwood Greens PUD Filing Nos. 5 - 10 Final Plat. The proposed Final Plat is for a single-family attached residential subdivision to include 232 units. The Property that is the subject of the Final Plat is located on the north side of 9th street, west of County Road 31, and the west and northern property boundaries are constrained by Fulton Ditch and 14th Street to the north.

The applicant submitted a concurrent request for the Cottonwood Greens PUD Filing Nos. 1 - 10 Preliminary Plat for this property that is being reviewed by City Council. The property is currently zoned PUD. Details of the Cottonwood PUD were established in December 2019 (Resolution No. 2019R090).

FINANCIAL CONSIDERATIONS

All applicable land use application fees have been paid and a fee deposit has been submitted to cover costs related to the application.

LEGAL/POLITICAL CONSIDERATIONS

This final plat is being reviewed under the final plat provisions of the code in the Subdivision Regulations. Section 17-23 states that a final plat is to be reviewed by City Council, and does not require Planning Commission review. The Code requires that a Subdivision Improvements Agreement be submitted by the applicant for review by the City Attorney and City Council. Completion of the Subdivision Improvements Agreement has been made a condition of approval.

This is the final step in the major subdivision process. The first step is approval of a Sketch Plat. The Cottonwood Greens Development Plan Sketch Plat was approved by City Council January 18, 2022 (Resolution No. 2022R009). The second step is approval of the preliminary plat (reviewed concurrently).

Notifications are not required for a final plat. However, referral agencies were provided with the submittal documents for review. All referral comments received are enclosed with this Action Memorandum.

ALTERNATIVES/OPTIONS

The City Council has the following options for each request:

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

a) Approve the proposed resolution.
b) Approve the proposed resolution with conditions.
c) Continue the meeting for additional information or further study.
d) Deny the proposed resolution.

STAFF RECOMMENDATIONS

Staff recommends conditional approval of the Cottonwood Greens PUD Final Plat Filings 5-10.

Attachments:

a. Proposed Resolution
b. Planning Commission Resolution P2022-016
c. Staff Report
d. Land Use Application
e. Project Narrative
f. Final Plats and PUD Plan Filings 5 - 10
g. Final Landscape Plan
h. Open Space Irrigation Plan
i. Construction Documents
j. Drainage Report
k. Ecological Report
l. Geotechnical Report
m. Soils Report
n. Traffic Impact Study
o. Elevations
p. Legal Notifications
q. Referral Responses

RESOLUTION NO. 2022R0xx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE FINAL PLAT OF THE COTTONWOOD GREENS PUD FILING NOS. 5 - 10 FOR A SINGLE-FAMILY ATTACHED RESIDENTIAL SUBDIVISION LOCATED IN THE SOUTH HALF OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, Cottonwood Development Partners LLC ("Applicants") have applied for approval of the Final Plat and PUD Plan of Cottonwood Greens Filing Nos. 5 - 10 for a single-family detached residential subdivision; and

WHEREAS, the Fort Lupton City Council held a public hearing on July 5, 2022, for the purpose of reviewing the Cottonwood Greens Final Plat and PUD Plan for Filing Nos. 5 - 10; and

WHEREAS, after review of the application for a Final Plat, and consideration of staff comments, Applicant's presentation, and any public input, the City Council finds that the Final Plat is in conformance with the Colorado Revised Statutes, City codes and policies, and Comprehensive Plan adopted by the City; and

NOW THEREFORE BE IT RESOLVED that the Fort Lupton City Council reviewed the plans and supporting documentation, all referral comments and any citizen input in response to this application. Based upon review of the applicable policies and goals in the Fort Lupton Comprehensive Plan, review of the Subdivision and Zoning Regulations, an analysis of referral comments and facts presented on this date, the City Council hereby recommends approval of the Cottonwood Greens PUD Filing Nos. 5 - 10 Final Plat located in the south half of Section 33, Township 2 North, Range 66 West of the 6th P.M., City of Fort Lupton, County of Weld, State of Colorado with the following conditions:

I. Prior to recording the Final Plat:

A. The title of the Final Plat shall be updated to include the Project No.: LUP2022-0008 and Plan No.: FPL2022-0002.

B. Any redlines provided by City staff shall be made to the Final Plat.

C. Prior to recording a filing, the applicant shall submit cash-in-lieu or transfer appropriate water shares per language in the Subdivision Improvement Agreement for Cottonwood Greens, Section 5.4, recorded October 10, 2020, reception No. 4641926. Payment shall occur before May 1, 2023 or remaining filings will be subject to current water fees and policies at time of recording.

D. The Applicant shall provide written acknowledgement of the comments from the Fort Lupton Fire Protection District.

E. The Applicant shall provide written acknowledgement of the comments from Xcel Energy.

F. The Applicant shall provide written evidence that the comments from the Public Works Director have been adequately addressed.

G. Applicant shall finalize a Subdivision Improvements Agreement for review by City staff and approval by City Council.

H. Prior to recording filing 8 the Applicant shall provide evidence that the wells identified in the agreement regarding oil and gas wells have been plugged and abandoned. Setbacks shall be appropriately delineated to reflect plugged and abandoned status.

II. Prior to the start of construction:

A. One set of mylars of the Final Plat shall be submitted for recording with the Weld County Clerk & Recorder. One set of mylars of the Preliminary Plat shall also be submitted.

III. The Final Plats shall be recorded within three (3) years of approval.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO THIS 5th DAY OF JULY, 2022.

City of Fort Lupton, Colorado

_____

Zo Stieber-Hubbard, Mayor

Attest:

_____

Maricela Peña, City Clerk

Approved as to form:

_____

Andy Ausmus, City Attorney

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
June 23, 2022

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, June 23, 2022.

Chair Mike Simone called the meeting to order at 6:02 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Vice-Chair Bushrod White and Members Kathy Kvasnicka and Jimmy Dominguez. Member Thomas Meyers participated remotely via GoToMeeting.

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto, Planner Molly Nelson, Planner Clay Hartley and Planning Technician Magaly Morales-Tejada.

APPROVAL OF AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Bush White moved to approve the agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

There was no public comment.

ACTION ITEMS

P2022-012 The Flats at Lupton Village Change of Zone

Planner Maria Lancto presented this item and item P2022-013 together. She stated that this proposal is for a mixed-use subdivision that will include 120 single-family attached residential lots and 1 general commercial lot. The subdivision includes greenspace amenity areas and connects to the regional trial network. The proposal is requesting a change of zone from the current C-1 General Commercial & R-O Residential and Office Zone to the 'PUD' Planned Unit Development Zone. All notification requirements have been met, including posting on the property and newspaper publications.

Mitch Nelson, with Baessler Developments, was present to provide a presentation on behalf of the applicant. Mr. Nelson stated that they have been working with city staff to address the comments made by the planning commission during the sketch plat review, these changes include increased landscaping and other adjustments to the overall layout. They have reviewed all of the conditions of approval for this project and will be able to address all of the conditions.

Chair Simone opened up the public comment portion of this hearing at 6:08pm. Hearing none he closed the public comment at 6:09pm

Chair Simone opened up the hearing to Planning Commissioners' comments and questions. Comments were made for items P2022-012 and P2022-013.

DRAFT

Commissioners discussed:

- Fire safety concerns due to the distance between buildings
- Fire suppression inside the garages
- Whether access to the playground will be public and accessible through the city's trail system

Director Hodges stated that the comments from the sketch plan review have been addressed from a planning perspective. The building and fire officials have conducted separate reviews and have provided comments based on the building and fire codes.

Mr. Nelson stated that the Metro District will be responsible for the playground and is responsible for enforcing accessibility but it is anticipated to be accessible by the public. He stated that the garages will have fire rated separation walls for fire suppression.

With no further discussion, Kathy Kvasnicka motioned to approve P2022-0012 The Flats At Lupton Village Change of Zone. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plat

Planner Maria Lancto stated that there would be no additional presentation for this item. All notification requirements have been met, including posting on the property and newspaper publications.

Chair Simone opened up the public comment portion of this hearing at 6:19pm. Hearing none he closed the public comment at 6:19pm.

No further discussion was held for this item.

Kathy Kvasnicka motioned to approve P2022-013 The Flats at Lupton Village Preliminary Plat and Preliminary PUD Plan. Jimmy Dominguez seconded. Motioned passed with 4 yes votes and 1 no vote.

P2022-014 Champion Xpress Car Wash Special Use Permit

Planner Maria Lancto presented this item, she stated that this application is for a Special Use Permit that would allow for a 4,360 square foot tunnel car wash facility. The car wash will be open from 8:00 AM to 8:00 PM, and three employees are expected to be on site throughout the day. The car wash does not include a customer service lobby and is intended only as a drive through tunnel for customers to bring their vehicles through. Vacuum stalls will be available for use in the parking areas. All notification requirements have been met, including posting on the property and newspaper publications.

Alan Kirchoff was present virtually on behalf of the applicant to answer any questions. There was no additional presentation from the applicant or the applicant's representative.

Chair Simone opened up the public comment portion of this hearing at 6:22pm. Hearing none he closed the public comment at 6:22pm.

Chair Simone opened up the hearing to Planning Commissioners' comments and questions.

DRAFT

Commissioners discussed:

- Chemical mitigation and reclamation

Mr. Kirchhoff stated that about 80% of the water is reclaimed and all water going into the sewer system is filtered.

With no further comments, Bush White motioned to approve P2022-014 Champion Xpress Car Wash Special Use Permit. Jimmy Dominguez seconded. Motion passed unanimously.

P2022-015 711 Denver Avenue Special Use Permit

Planner Molly Nelson presented this item. She stated that this application is for a request for a Special Use Permit that would allow for a short-term rental. The short-term rental has proposed quiet hours from 9:00pm to 7:00am. Rooms will not be rented out separately. All structures on this site are existing. All notification requirements have been met, including posting on the property and newspaper publications.

The applicant provided a YouTube video on behalf of her application, this video is not attached to these minutes but can be viewed at https://youtu.be/_a3aFJAncEE.

Susan Marx was present virtually on behalf of the applicant, she added that the applicant is experienced in short-term rentals and has a reputable history.

Chair Simone opened up the public comment portion of this hearing at 6:34pm. Hearing none he closed the public comment at 6:34pm.

Commissioners discussed:

- Restrictions on the amount of people
- Where guests will park
- Whether this property will be historically designated
- If there will be tax revenue for the city
- The type of fire suppression that will be required
- If a host will be on site at all times

Planner Nelson stated that there is a limit of 10 people at a time per building and fire regulations, including the residents.

Director Hodges stated that parking will be along Denver Avenue. No fire suppression is required based on the occupancy type per the fire and building regulations. This will be a registered business therefore the city will receive tax revenue.

Ms. Marx stated that the resident will be the host and housekeeper so will be on site at all times.

With no further comments, Bush White motioned to approve P2022-015 711 Denver Avenue Special Use Permit. Kathy Kvasnicka seconded. Motion passed unanimously.

P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat

DRAFT

Planner Clay Hartley presented this item. He stated that this application is for a Preliminary Plat and PUD Plan for a residential subdivision that will have 410 single family detached residences and 137 single family attached units. The development will include infrastructure, landscaping, parks and trails. This amendment to the original preliminary plat and PUD plan brings in an additional parcel, known as the Conner Parcel. It also amends a piece known as the Thermo Farms Parcel to reflect changes to that parcel the Applicant is requesting from the original layout. This subdivision has gone through several approved plats between May 2019 to the most recent in January 2022. All notification requirements have been met, including posting on the property and newspaper publications.

Kristen Turner, the applicant's representative, was present virtually and provided a brief presentation. She stated that this application ties the previously approved plat with the parcels adjacent to the west and creates cohesiveness throughout the properties.

Chair Simone opened up the public comment portion of this hearing at 6:46pm. Hearing none he closed the public comment at 6:46pm.

Commissioners discussed:

- Open space maintenance
- Road maintenance

Ms. Turner stated that open space and roads will be maintained by the Metro District.

With no further comments, Kathy Kvasnicka motioned to approve P2022-016 Cottonwood Greens PUD Filings No. 1-10 Preliminary Plat. Bush White seconded. Motion passed unanimously.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

FUTURE BUSINESS

The next meeting of the Planning Commission will be on March 24, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 7:00 PM.

Submitted by

_____
Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission

_____
Mike Simone, Chair

DRAFT

COTTONWOOD GREENS PUD FILING NOS. 5 – 10 FINAL PLAT & PUD PLAN STAFF REPORT
LUP2022-0008 & PLAN NO. FPL2022-0002

PROJECT DESCRIPTION

Project No.: LUP2022-0008 / Plan No.: FPL2022-0002

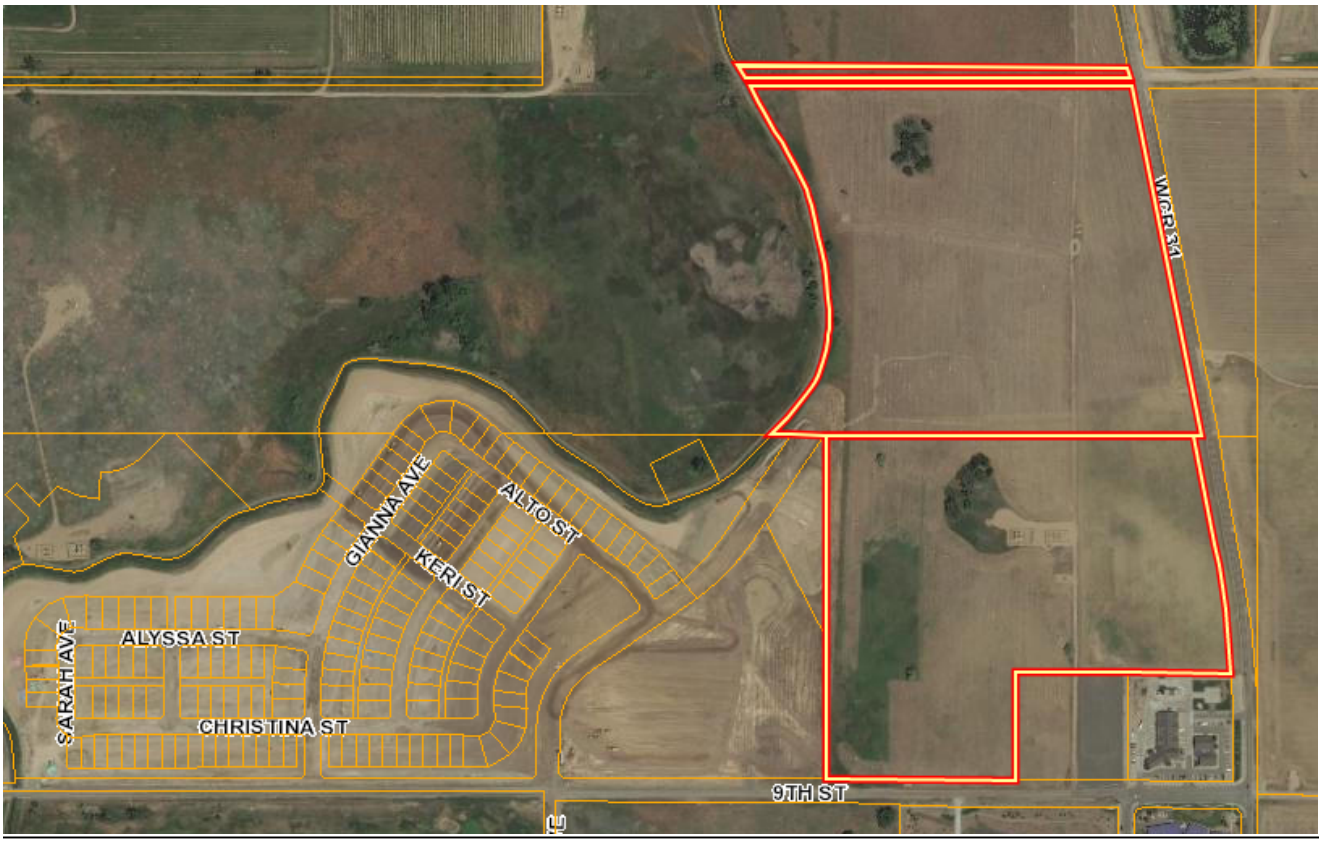
Project Name: Cottonwood Greens PUD Filings Nos. 5 – 10 Final Plat and PUD Plan

Owner's Name: Cottonwood Development Partners LLC ("Applicant")

Representative: Kristen Turner with TB Group

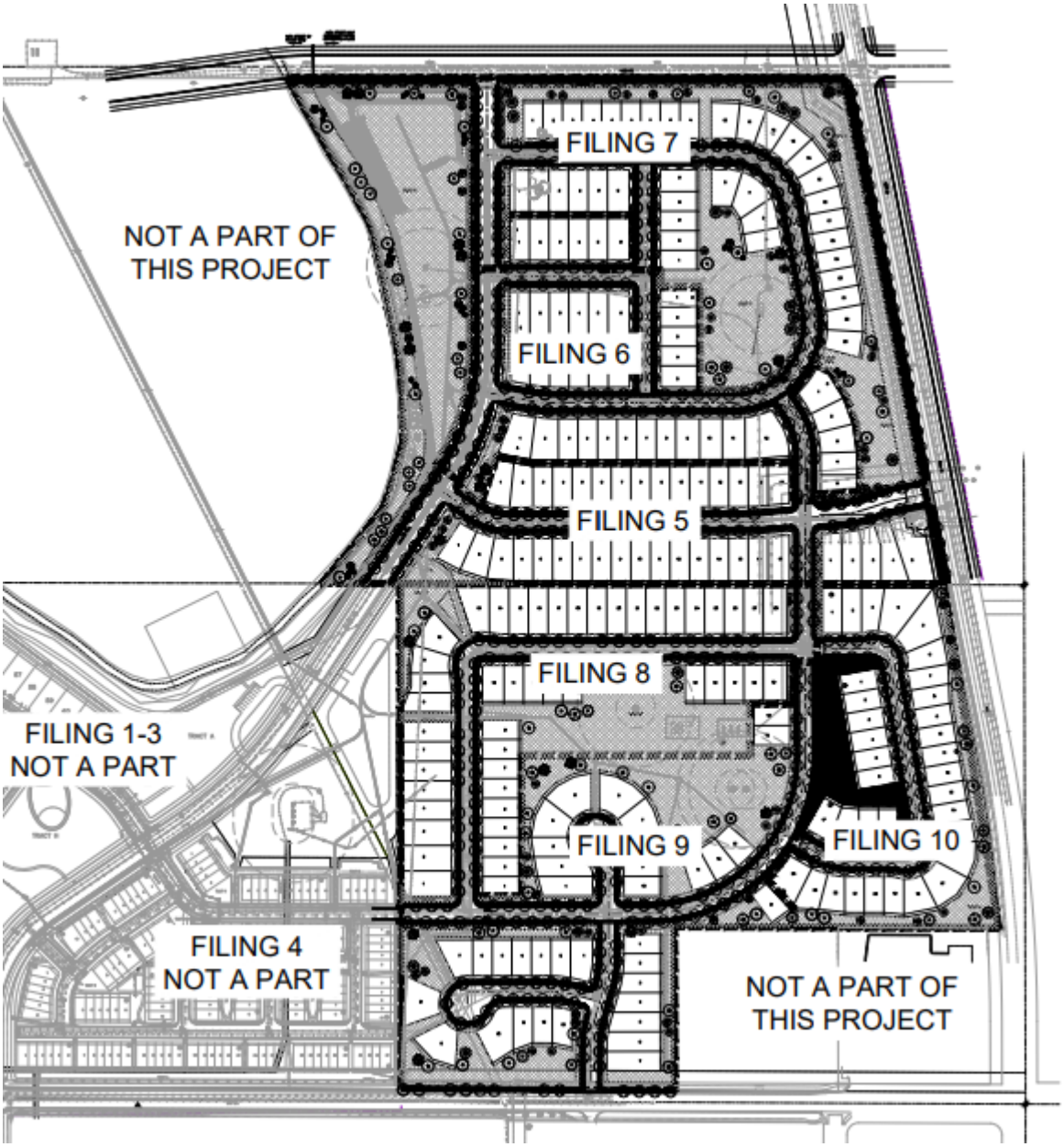
Location of Request:

The site consists of land located north and adjacent to 9th Street and west and adjacent to County Road 31 (the "Property"). The Property is located in the south half of Section 33, Township 2 North, Range 66 West of the 6th Principal Meridian, City of Fort Lupton., County of Weld, State of Colorado.



Nature of Request:

The Applicant has submitted a request for a final plat for a residential subdivision that will include 232 single-family attached residential lots. The subdivision includes greenspace amenity areas and connects to the regional trial network. A final PUD plan has also been submitted and is being reviewed with this application. A Preliminary Plat and PUD Plan has also been submitted.



Site Size: 75.6 acres, more or less.

Zone District: 'PUD' Planned Unit Development.

Proposed Use: A residential subdivision to include single-family attached residential lots with associated landscaping, infrastructure, and drainage.

Existing Use: Vacant/Agricultural

Hearing Dates: Planning Commission – June 23, 2022 at 6:00 PM; and
City Council – July 5, 2022 at 6:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions, as shown on the proposed resolution.

SUMMARY OF PREVIOUS APPLICATIONS

In 2006, the City Council approved a metropolitan district, final plat, subdivision improvement agreement, and PUD development plan for this property. However, the subdivision was never developed, and the property ownership became fragmented. The metropolitan district remains in effect; however, each separate ownership parcel was required to start the development process over.

On May 6, 2019, the Fort Lupton City Council approved the Cottonwood Greens Sketch PUD Plat (Resolution No. 2019R034), and on December 16, 2019, the PUD Development Plan and Preliminary PUD Plat for the overall Cottonwood Greens Development was approved (Resolution No 2019R090).

On May 19, 2020, City Council approved the Final PUD Development Plan and Final Plats for Filing Nos. 1 – 3 (Resolution No. 2020R048). The Subdivision Improvements Agreement for those filings was approved on June 2, 2020 (Resolution No. 2020R050).

On November 2, 2021, City Council approved the Final Plat and Final PUD Plan for Filing No. 4 (Resolution No. 2021R065), which includes the single-family attached residential (townhome) units.

On January 18, 2022, City Council approved an amended sketch plat and sketch PUD plan (Resolution No. 2022R009).

APPLICATION PROCESS

The Applicant is requesting approval of a Final Plat for the Cottonwood Greens PUD Filings No. 5 – No. 10. Pursuant to Section 16-45(c)(3) of the Fort Lupton Municipal Code (FLMC), except as specifically provided in said Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major subdivisions, including all preapplication conferences, sketch PUD plan, preliminary PUD plan and final PUD plan applications, public hearings and recording with the County Clerk and Recorder.

Section 17-23 states that a final plat is to be reviewed by City Council at a public meeting. A final plat does not require Planning Commission review. The Code requires that a subdivision improvements agreement be submitted by the applicant for review by the City Attorney and City Council. A subdivision improvements agreement has been addressed in the conditions of approval included on the proposed resolution.

This is the final step in the major subdivision process. The first step is approval of a sketch PUD plat (reviewed and approved on January 18, 2022), and the second step is approval of the preliminary PUD plat (reviewed concurrently).

NOTIFICATION REQUIREMENTS

Notifications are not required for a final plat, however referral agencies were provided with the submittal documents for review. All referral comments received are enclosed with this Action Memorandum.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

Section 16-45 – PUD Planned Unit Development District

a) The Planned Unit Development (PUD) Provisions contained herein are intended to provide for the planning and development of substantial tracts of land, suitable in location and character for the uses proposed, as unified and integrated entities in accordance with detailed development plans.

The proposed project is for a subdivision which will include single-family detached residential lots. The composition of the subdivision is intended to create a cohesive feel between this property and the surrounding area. This development will also incorporate the existing and planned trails that are addressed in the Fort Lupton Parks and Trails Master Plan. The PUD zoning in effect for the development allows for multiple types of residential housing to include those planned for in the Final Plat. Staff believes this plan meets the intent of Section 16-45(a).

b) Development within PUD Districts shall require specific approval of the Planning Commission and the City Council as amendments to the "Official Zoning Map" and approval of PUD plans which comply with the requirements and standards set forth in this Chapter and after the requirements of notice and hearing as set forth in this Chapter.

This property is already zoned PUD. A concurrent application for a Preliminary Plat and PUD Plan has been submitted for Planning Commission and City Council approval.

c) PUD plan.

(1) PUD permit requirements. All development within a PUD District must be in accordance with an approved PUD plan. No building or development permits shall be issued within a PUD District unless they are in conformance with an approved PUD plan for that District. Small wind energy systems are permitted uses in PUDs, provided that they meet the qualifications and criteria for a building permit set forth in Section 18-9 of this Code and are approved as part of the PUD approval process.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary PUD Plat maps and related submittal documents included with this Planning Commission packet.

(2) PUD plan format and content, general. In accordance with this Section, PUD plans shall contain unique district regulations that apply to specific parcels of land within a PUD District, including permitted and special uses, lot sizes, bulk, density, general layout, architectural guidelines and location of and standards for public facilities and amenities, and any design standards that vary from the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements. Unless specifically modified by a PUD plan, all

provisions of the City's Code and adopted standards and specifications shall apply within PUD Districts. PUD plans shall be in the same general format as required for subdivision plats.

A PUD plan has been submitted for the proposed development, and is laid out in the Preliminary Plat maps and related submittal documents included with this Planning Commission packet. Unless specifically modified by the PUD plan, the subdivision will adhere to all provisions of the City Code.

(3) PUD plan process, general. All PUD plan applications shall be submitted and processed simultaneously with the subdivision applications for the property. PUD plan and subdivision applications may also be processed concurrently with the proposed amendment to the Official Zoning Map, creating a PUD District. Except as specifically provided in this Section, PUD plan applications shall be processed in the same manner as set forth in this Code for major subdivisions, including all pre-application conferences, Sketch PUD Plan, Preliminary PUD Plan and Final PUD Plan applications, public hearings and recording with the County Clerk and Recorder.

These requirements have been met. The City has a general land use application, which includes the submittal for a PUD plan and subdivision application.

(4) Maintenance of private facilities. The owner shall establish an organization for the ownership and maintenance of any approved private streets and/or common open space areas unless other adequate arrangements for the ownership and maintenance thereof are provided in a manner acceptable to the City.

The applicant is working with the City to finalize the Subdivision Improvement Agreement. Private utilities will be maintained by a metro district.

(5) PUD size. Unless specifically waived by the City Council, the area included in a PUD plan must be at least ten (10) acres in size.

This development is 75.6 acres in size, more or less.

(6) Approval. Approval of a final PUD plan by the City Council shall be by ordinance.

This project will be presented before City Council for approval on July 5, 2022.

d) Intent. PUD provisions are intended to further the following objectives:

(1) To permit and encourage innovative design and high quality, master-planned urban developments on large parcels of land.

(2) To permit greater flexibility in the application of zoning and development standards and greater freedom in providing a mix of land uses in the development of a balanced community.

(3) To preserve critical environmental resources, provide above-average open space and recreational amenities, include exceptional design and provide greater efficiency in the layout and provision of roads, utilities and other infrastructure.

(4) To provide flexibility in land planning and development, resulting in amenable relationships between buildings and ancillary uses, and permitting more intensive use of land where well-related open space and recreational facilities are integrated into overall design.

(5) To encourage unity and diversity in land development, resulting in convenient and harmonious groupings of uses, structures and common facilities, varied type design and layout of housing and other buildings and appropriate relationships of open spaces to intended uses and structures.

(6) To encourage unified and planned development of a site, with or without customary subdivision into single lots, and without specific application of the district regulations as provided for individual lots, subject to the regulations set forth herein.

(7) To provide for and encourage the preservation and enhancement of desirable natural landscape and other features unique to a development site.

(8) To provide reasonable standards and criteria by which the specific proposals for a PUD can be evaluated.

(9) To provide a procedure which can relate the design and layout of unified residential, commercial or industrial developments to the particular site and demand for such development in a manner consistent with the preservation of property values within established residential areas.

With respect to Section 16-45(d)(1)-(9) above, staff finds that the proposed PUD Plan and Preliminary and Final Plats substantively meet the intent of this subsection. The development of a residential subdivision under PUD zoning may provide more cohesion between the different land use types present in the area. The proposed PUD development promotes future growth within the City of Fort Lupton by providing hundreds of new housing units. This new construction will, no doubt, bring added value to the area in the form of able employees, culture, and an expanded tax base.

Deviations from the City Code are outlined on the PUD Plan.

e) General location and planning requirements.

(1) Relation to major transportation system. PUD districts shall be located with respect to major streets and highways or other transportation facilities to be directly accessible without creating traffic on minor streets in residential areas outside such district.

The subdivision will be accessed from 9th Street, County Road 31, and 14th Street. This subdivision will also include the construction of several internal neighborhood streets that will provide access to each of the residential lots as well as an extension of College Ave. The build-out of College Ave. will connect 9th to 14th and provide a less trafficked route than is County Road 31.

(2) Relation to public utilities and community facilities. PUD districts shall be located in relation to public utilities and community facilities and services, either existing or to be available by the time development reaches the stage where they will be required, so that such facilities can be provided at reasonable cost and with reasonable efficiency.

Potable and non-potable water will be supplied by the City. Sanitary sewer will be supplied by the City. The developer is working with private utility providers for other utility requirements. Staff finds that the development meets this objective.

(3) Relation to general pattern of urban development. PUD districts shall be planned and located in general compliance with the Comprehensive Plan and shall relate to the major elements of the urban pattern, including housing, commercial facilities and principal places of employment, by physical proximity of major streets so as to provide for the convenience and amenity of residents of the community and to reduce general traffic congestion by a close relationship between origins and destinations.

The Future Land Use Map designates this parcel for single family detached land uses. This proposal meets the intent of the Comprehensive Plan.

f) Physical character of the site. The site shall be suitable for the development proposed without hazards to structures, occupants or any property from probability of flooding on the site or on adjacent lands, from erosion or deposition of eroded material on adjacent lands, from subsidence of the soils or from other dangerous conditions. Soil, groundwater level, drainage and topography shall be appropriate to both the kind and pattern of use intended.

The project is not located within a floodplain. The Applicant accounted for drainage as shown on the plat. A soils report was submitted with the application materials and is available for review.

g) Site planning; external relationships.

(1) Vehicular access. Entrances and exits for vehicles shall be designed to encourage smooth traffic flow with minimum hazards to passing traffic or to traffic entering or leaving the development. Merging or turnout lanes may be required where anticipated traffic flows from or to the PUD indicate the need for such lanes. In no case shall streets within a PUD district connect to streets outside the district in such a way as to encourage use of any minor streets for through traffic.

Several interior roads will be constructed to create access to each lot.

A traffic impact study was submitted with the application materials for review by the City Engineer, Fire District, and Planning staff. Staff finds that the layout proposed meets the intent of this subsection.

(2) Perimeter setback and screening. If topographical or other barriers do not provide adequate buffer between the PUD and adjacent uses, structures on the perimeter of the PUD shall be set back a distance equal to the minimum setback requirement of the adjoining district, or shall be permanently screened by fences, walls or plantings as required to sufficiently protect the privacy and amenity of adjacent uses, to protect the planned development from

potentially adverse external influences such as a major street or highway and, as necessary, to make transition from adjoining district.

The applicant has submitted a landscape plan and worked with staff to ensure adequate landscaping particularly along 9th Street and County Road 31. Trees, shrubs, and grasses will act as a buffer between the road and homes.

h) Modifications of subdivision regulations.

(1) The improvements required under the subdivision regulations, including streets, storm drainage, sanitary sewerage and potable water systems, shall be provided in each PUD.

The Applicant is working with the City Engineer to finalize a subdivision improvements agreement prior to construction. This agreement will go before City Council for approval.

A final drainage report is provided in this packet.

(2) The requirements and standards for the construction of streets and utilities set forth in the City of Fort Lupton Standards and Specifications for the Design and Construction of Public Improvements shall be subject to modification where the plan and program for a PUD make adequate provision for vehicular and pedestrian access and circulation, recreation, utility and service needs of the tract when fully developed and occupied, and also provide such covenants, easements or other legal documents and provisions as will assure conformity to and successful implementation of the plan. Such modifications shall be contained within the PUD plan, subject to approval by the City Council.

The Applicant is working with the City Engineer to finalize these improvements prior to construction.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings/Grounds Manager	Building Inspector	City Attorney
Recreation Manager	GIS Specialist	Police Chief
Public Works Director	Golf Course Manager	Fort Lupton Fire Protection District
CDOT	United Power	Comcast
CenturyLink	Xcel Energy	Weld County GIS
Fulton Ditch Company	NCWCD	Weld County Department of Planning
OMI	Postmaster	Weld County Public Works

STAFF RECOMMENDATION

Staff recommendation conditional approval of the Cottonwood Greens PUD Filing Nos. 5 – 10 Final Plat and PUD Plan. Conditions are listed under the proposed Resolution included with the packet.

For more information on this development, please refer to the application materials packet provided. Additional documents may be available for review at the Fort Lupton City Hall.

Form PLAN002

CITY OF Fort Lupton EST 1836

COME PAINT YOUR FUTURE WITH US

Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortlupton.org

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

1) Property Owner Name: Cottonwood Development Partners LLC.

Company: _____

Phone: (714)404-7867 Email: Jim@rfcomsites.com

Address: 4040 MacArthur Blvd., Ste. 250 Newport Beach, CA 92660

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

2) Representative Name: Kristin Turner

Company: TB Group

Phone: 970.532.5891 Email: kristin@tbgroup.us

Address: 444 Mountain Avenue Berthoud, CO 80513

Preferred method of contact? Email: ☑ Phone: ☐ Mail: ☐

3) Billing Contact *(where invoices should be directed to)*: Attn: Gloria Morales

Billing Company: Cottonwood Development Partners LLC.

Phone: (949)566-8163 Email: Gloria@rfcomsites.com

Address: 4040 MacArthur Blvd., Ste. 250 Newport Beach, CA 92660

B. SITE DESCRIPTION

Site Address: Vacant Land, County Road 14 Fort Lupton, CO 80621

Parcel Number: 130933416019

Existing Zone Classification: PUD Proposed Zone Classification: PUD

Water Type: Municipal Name: Fort Lupton

Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

☐ Sketch Plat	☐ Administrative Site Plan	☐ PUD Plan (Preliminary & Final)
☑ Preliminary Plat	☐ Special Use Permit	☐ Variance
☑ Final Plat	☐ Oil & Gas Permit	☐ Administrative Variance
☐ Minor Subdivision	☐ Annexation & Initial Zone	☐ Appeal
☐ Amended Plat	☐ Change of Zone	☐ Other: _____
☐ Site Plan	☐ Comp Plan Amendment	

Project No. _____

D. PROJECT DESCRIPTION

Project Name: Cottonwood Greens

Please provide a short description of the proposed project in the space provided below:

This is a proposal for development of the northwest section of the Cottonwood Greens subdivision as well as the Connor property which is located directly to the south and adjacent to the 4th filing. The site has existing PUD zoning. Single family detached lots are proposed.

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS

Representative Certification

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: _____ Date: 1/25/22

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: _____ Date: 1/25/22

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

_____

_____

_____

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

TB GROUP
landscape architecture | planning | illustration

Cottonwood Greens PUD No. 5- No. 10: Preliminary/Final Plat Narrative
February 4, 2022

General Description/Site Features and Proposed Land Uses

The property is located on the north side of 9th street and west of College Avenue and Cottonwood Greens PUD No. 4. The combined property (filings 5-10) is approximately 75.6 acres with existing PUD zoning. Proposed uses will include 232 single family attached residential units. The overall project density is approximately 3.0 du/ac. The development will include common areas and interconnecting trails.

Compliance with the City of Fort Lupton Comprehensive Plan

The proposed development integrates the goals set out in the Town Comprehensive Plan in the following ways:

Growth and Development

The proposed development is designed to provide connections at pre-determined locations to existing and adjacent neighborhoods. In addition, the layout provides continuous, direct, convenient, and safe pedestrian pathways to adjacent subdivisions and proposed parks. The site is well situated for housing per the Comprehensive Plan. The plan also provides for diversity in housing types for the community.

Transportation and Mobility

This plan provides a safe and efficient transportation network that accommodates pedestrians, vehicles and bicycles. Connections to 9th Street, College Avenue and County Road 31 are planned for these filings. The site is well connected to the previously approved filings with local street connections which will provide easy access for vehicles, bicycles, and pedestrians. The project is planned as a pedestrian oriented and walkable community with sidewalks, street trees and connections throughout the community, to future and existing adjacent neighborhoods.

Parks, Open Space and Environmental Features

The open space and trails within the development will provide high quality recreational opportunities for neighborhood residents and create connections to future and existing neighborhoods and uses beyond our project boundaries. This project will construct the Connector Trail proposed along 9th Street. Trail connections will be provided throughout the site with extensions to all sides of the development tract. A neighborhood park was designed as part of Cottonwood Greens PUD No. 1, to serve the overall development. In addition, a trail head with access to multiple Town trails was designed as part of Cottonwood Greens PUD No. 3 development for the benefit of the entire community. There are no significant environmental features on-site.

Public Facilities and Services

Infrastructure

The proposed development is a logical extension of the City of Fort Lupton public services without placing additional burdens on existing residents and businesses. Infrastructure will be provided so as to meet the requirements of the Comprehensive Plan and/or the Land Use Code.

Water will be provided by the Town of Fort Lupton by connecting to an existing 12" water main in College Ave. and an existing 12" water main in Weld County Road 31. There will also be a network of 8" mains throughout the site. Irrigation flows will be provided by a separate irrigation system.

Sewer will be provided by the Town of Fort Lupton through two connection points: one to the north in 14th St., and one in the center of the site, to the west of College Ave . The existing mains have capacity for the proposed development.

Stormwater will be treated using appropriate water quality measures, with on-site detention being utilized throughout the site to maintain stormwater releases at or below historic rates from the site. The release will be to a single pipe to be constructed through the site to the west adjacent to the existing sanitary sewer. The project area is not located with any FEMA regulated floodplain.

Fire and Police Protection

Law enforcement for the property would be provided by the Fort Lupton Police Department. It is not anticipated that there would be special security needs or a specific need for additional officers.

Fire protection for the property would be provided by Fort Lupton Fire Department. Fort Lupton Fire Station #2 is located at the northwest corner of County Road 31 and 9th Street. It is not anticipated that the project would pose special fire hazards. Fire prevention requirements, fire detection, fire lanes, emergency access, etc. will be provided as required by code.

Schools

The project is within the Weld Re-8 School District. We will work with the District to identify and address any impacts of this project.

Recreation and Open Space

The open space and trails within the development will provide high quality recreational opportunities for neighborhood residents and create connections to future and existing neighborhoods and uses beyond our project boundaries. This project will construct the Connector Trail proposed along 9th Street. Trail connections will be provided throughout the site with extensions to all sides of the development tract. A neighborhood park was designed as part of Cottonwood Greens PUD No. 1, to serve the overall development. In addition, a trail

head with access to multiple Town trails was designed as part of Cottonwood Greens PUD No. 3 development for the benefit of the entire community.

Planned Phasing

Please refer to the phasing designation in the construction documents for specific areas to be included per phase.

Cottonwood Greens Filing No. 5 through Filing No. 10 is located in Fort Lupton, Colorado within the Cottonwood Greens PUD. The Filings have been phased to allow the client to develop the site as the market demands. The client may choose separate home builders and/or may develop concurrently if preferred.

- Filing No. 5 must be constructed first to allow for two points of access to the site, by connecting College Avenue to County Road 31. The sanitary sewer outfalls west of College Ave (constructed with Filing No. 1-3) to an existing sanitary sewer (by others), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- It was assumed that the project would progress to the north so Filing No. 6 is proposed with two street connections to Filing No. 5. The sanitary sewer outfalls to the north within the 14th Street ROW to an existing sanitary sewer (by others), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 7 completes the north portion of the site and is proposed with three street connections to Filing No. 6. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 6), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 8 is proposed in the south with two street connections to Filing No. 4 and Filing No. 5. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 5), storm infrastructure connects to the existing pond (constructed with Filing No. 4), and water and irrigation is proposed within the streets with connections to future phases. Filing No. 8 is independent of Filing No. 6 and Filing No. 7 and thus could be constructed after Filing No. 5, if the client chooses to.
- Filing No. 9 is proposed with a street connection to 9th Street and two internal street connections to Filing No. 8. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 8), storm infrastructure connects to the existing storm sewer (constructed with Filing No. 8), and water and irrigation is proposed within the streets with connections to future phases.
- Filing No. 10 is proposed with two street connections to Filing No. 9. The sanitary sewer connects to the existing sanitary sewer (constructed with Filing No. 9), no storm infrastructure is proposed, and water and irrigation is proposed within the streets.

Statement of Commercial Mineral Deposits

There are currently oil & gas facilities within the property but there are no known commercial mineral deposits on-site.

Cottonwood Greens PUD No. 5 – No. 10 Metro District Statement

The District will provide and maintain the Public Improvements necessary to serve the project. The District will also provide ongoing services including: covenant enforcement, design review, and parks, open space and common area ownership and maintenance.

Urban Design , Architecture & Elevations

The architecture for filings 5-10 will be consistent and compatible with the existing residential design and include similar architectural features and color schemes. High-quality residences are envisioned for this neighborhood and will be consistent with the development to the west. A mix of elevations will provide an appealing streetscape while detached walks and tree lawns will support a pedestrian friendly community. Conceptual elevations have been provided.

Historical or Archaeological Sites

The Cottonwood Greens property has no known historical significance and/or archaeological sites within the property boundary. There the property is currently a vacant lot with existing oil & gas on-site.

Compatibility With Adjacent Neighborhoods

Residential development is proposed for filings 5-10 which is consistent with the previously approved and/or constructed portion of the subdivision. There is currently PUD zoning which is consistent with the property north, east and west. There is a mix of AG and PUD zoning to the south of the property. A large landscape buffer has been proposed along the property boundary for this community. Landscape will be used to create visual interest and provide screening in any necessary locations. Multiple access points have been provided which could serve as both vehicular and pedestrian connections to adjacent development as well as connections to the existing neighborhood. Multiple regional trails through the property will also serve as an amenity for future adjacent developments.

Description Of Standards For Infrastructure

There are no deviations of design standards proposed for this subdivision related to infrastructure. If it becomes necessary to propose a change to standards at the time of platting, a variance will be requested.

A deviation has been proposed (ref plat) for Section III, H.3.b (3) *Street Tree Planting*, of the residential design standards. The following separations have been proposed.

THE FOLLOWING STREET TREE PLANTING SEPARATIONS SHALL BE REQUIRED:

1. FIVE (5) FEET FROM ANY WATER LINE (POTABLE, NON-POTABLE AND/OR IRRIGATION LINE)

2. NO TREE SHALL BE LOCATED DIRECTLY ON TOP OF ANY UTILITY LINE

3. NO TREE SHALL BE PLANTED IN-LINE WITH A WATER METER.

Conditions of Approval (Sketch Plat and Sketch PUD Plan)

I. Prior to submittal of the Preliminary Plat and Preliminary PUD Plan:

A. Applicant shall submit a pre-application meeting request and meet with City Staff to determine requirements of the submittal. Meeting was held on 1.20.22.

B. Any redline comments provided by City staff shall be made to the Amended Sketch Plat and Plan map. Revisions were submitted on 1.20.22.

II. As part of the Preliminary Plat and Preliminary PUD Plan submittal, the applicant shall include the following:

A. Provide information concerning any existing surface use agreements and provide detail how the agreements have been addressed on the design of the development. The oil & gas is existing, and the required setbacks have been incorporated into the plan. The KP Kaufman well (northwest end of site) has been designed to accommodate the required setbacks. The wells within the Connor and Thermo portions of the site will be plugged and abandoned. An agreement with Kerr McGee and Anadarko has been provided to the City.

B. Provide information concerning any existing metro district and/or homeowners association. See statement below.

C. Provide locations of all active and inactive wells, and evidence that they meet setback requirements of the City. Work with Planning Department staff for any layout changes due to setback requirements. Included on plan sets.

D. Development reports and studies shall be updated to include the Conner parcel. Included.

E. Provide an updated landscape plan for review and approval. Included.

F. The applicant shall provide written evidence that the comments from the Fort Lupton Fire Protection District have been adequately addressed. A draft notice to neighbors has been included for Fire review.

G. The applicant shall provide written evidence that the comments from United Power have been adequately addressed. A response has been included with this submittal.

H. The applicant shall provide written evidence that the comments from Xcel Energy (Public Service Company) has been adequately addressed. A response has been included with this submittal.

COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

LEGAL DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 87°46'51" EAST 763.89 FEET TO THE SOUTH RIGHT–OF–WAY LINE OF 14TH STREET AND THE NORTHWEST CORNER OF SAID THERMO–FARMS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID SOUTH RIGHT–OF–WAY LINE AND ALONG THE NORTH LINE OF SAID THERMO–FARMS NORTH 89°58'06" EAST 456.81 FEET;

THENCE DEPARTING SAID SOUTH RIGHT–OF–WAY LINE AND SAID NORTH LINE SOUTH 00°01'47" EAST 25.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AND A CENTER WHICH BEARS SOUTH 45°04'31" EAST;

THENCE 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45" TO A POINT OF TANGENCY;

THENCE SOUTH 00°07'09" EAST 656.17 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 532.50 FEET;

THENCE 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40" TO A POINT OF NON–TANGENCY;

THENCE SOUTH 56°15'29" EAST 85.00 FEET;

THENCE SOUTH 33°44'31" WEST 3.48 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE SOUTH 56°15'29" EAST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE HAVING A RADIUS OF 145.00 FEET;

THENCE 3.03 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°11'50" TO A POINT OF NON–TANGENCY;

THENCE NORTH 20°20'45" EAST 127.99 FEET;

THENCE SOUTH 69°39'15" EAST 18.25 FEET;

THENCE SOUTH 79°55'29" EAST 75.55 FEET;

THENCE NORTH 89°52'51" EAST 500.00 FEET;

THENCE NORTH 89°25'40" EAST 50.00 FEET;

THENCE NORTH 85°16'56" EAST 50.16 FEET;

THENCE NORTH 84°52'51" EAST 65.46 FEET;

THENCE SOUTH 00°07'09" EAST 93.65 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 5.63 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO A POINT OF TANGENCY;

THENCE NORTH 84°52'51" EAST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 264.00 FEET;

THENCE 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40" TO A POINT OF TANGENCY;

THENCE NORTH 71°48'11" EAST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET;

THENCE 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31" TO A POINT OF TANGENCY;

THENCE NORTH 78°50'42" EAST 46.09 FEET TO A POINT OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 15.00 FEET;

THENCE 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59" TO A POINT OF NON–TANGENCY;

THENCE NORTH 78°50'42" EAST 10.00 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY ROAD 31, ALSO BEING THE EASTERLY LINE OF SAID THERMO–FARMS;

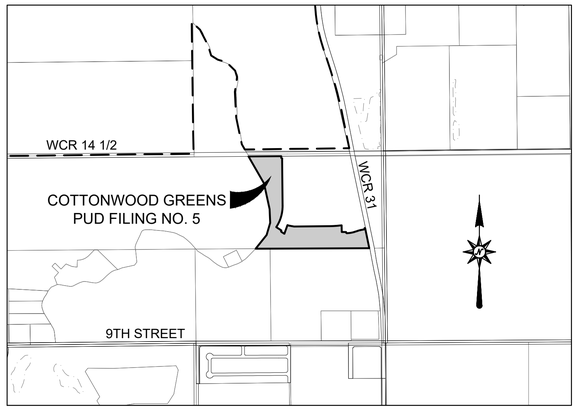
THENCE ALONG SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID EASTERLY LINE SOUTH 11°09'18" EAST 287.30 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33, ALSO BEING THE SOUTH LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID SOUTH LINES NORTH 89°52'26" WEST 1498.55 FEET TO THE WESTERLY LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID WESTERLY LINE THE FOLLOWING FIVE (5) COURSES:

1. NORTH 39°06'23" EAST 246.83 FEET;
2. NORTH 16°42'35" EAST 177.01 FEET;
3. NORTH 02°13'20" WEST 191.53 FEET;
4. NORTH 11°45'35" WEST 367.88 FEET;
5. NORTH 29°31'20" WEST 434.19 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 667,121 SQUARE FEET, OR 15.31 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 5, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 5 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 5

FILE NO.	21002209 CC FLE 5
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

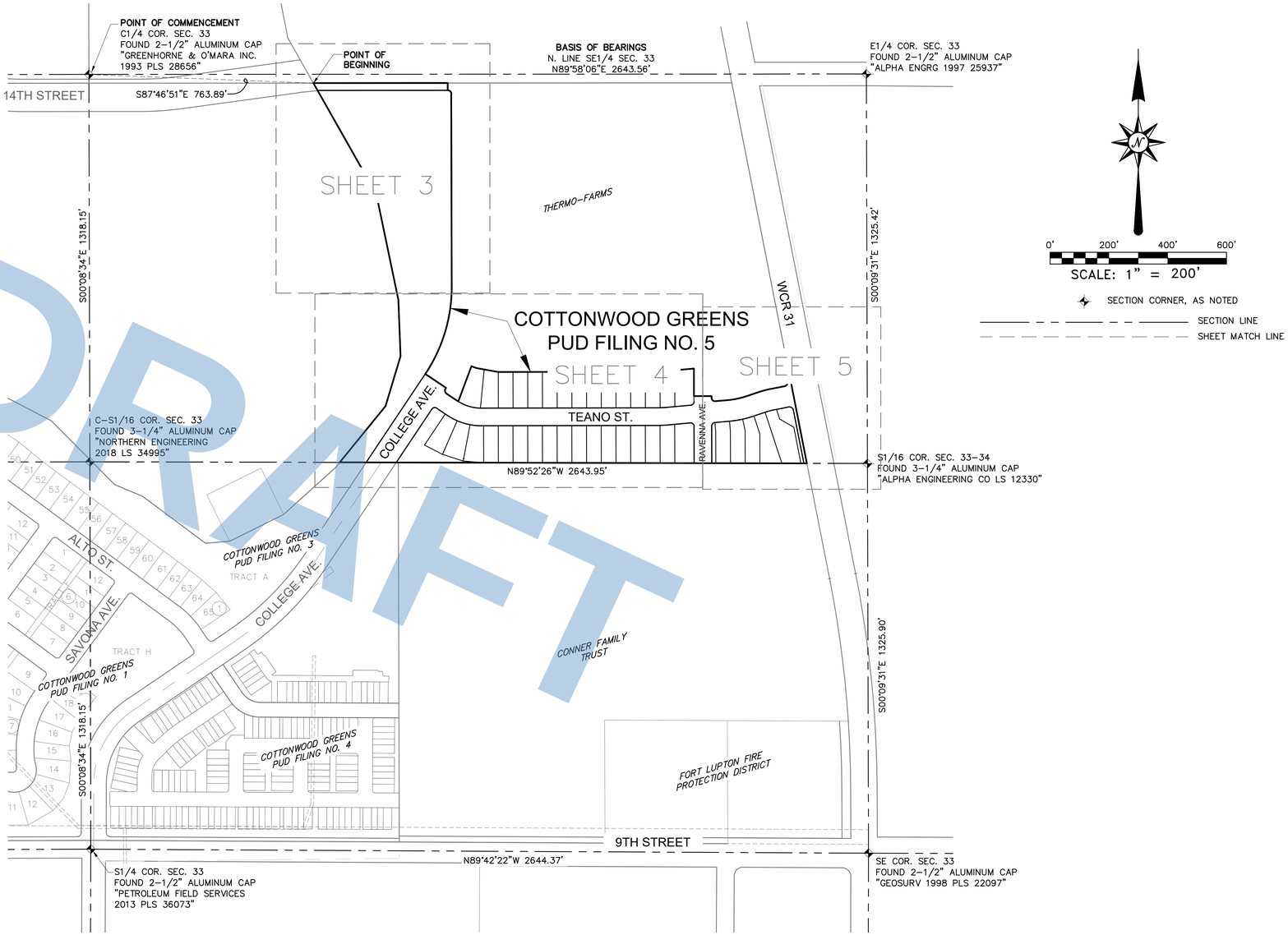
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	15,261	0.35	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,817	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	264,050	6.06	DETENTION, OPEN SPACE	METRO DISTRICT
D	4,189	0.10	UTILITIES, OPEN SPACE	METRO DISTRICT
E	11,243	0.26	RIGHT-OF-WAY	FORT LUPTON
	296,560	6.75		
LOTS (37)	252,517	5.79		
RIGHT-OF-WAY	129,287	2.97		
TOTAL	667,121	15.31		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT NO. 0019515-030-TH-EG DATED OCTOBER 5, 2018 IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 658,877 SQARE FEET, OR 15.13 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U.S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

COLORADO LICENSED
MICHAEL LLOYD POOL
28304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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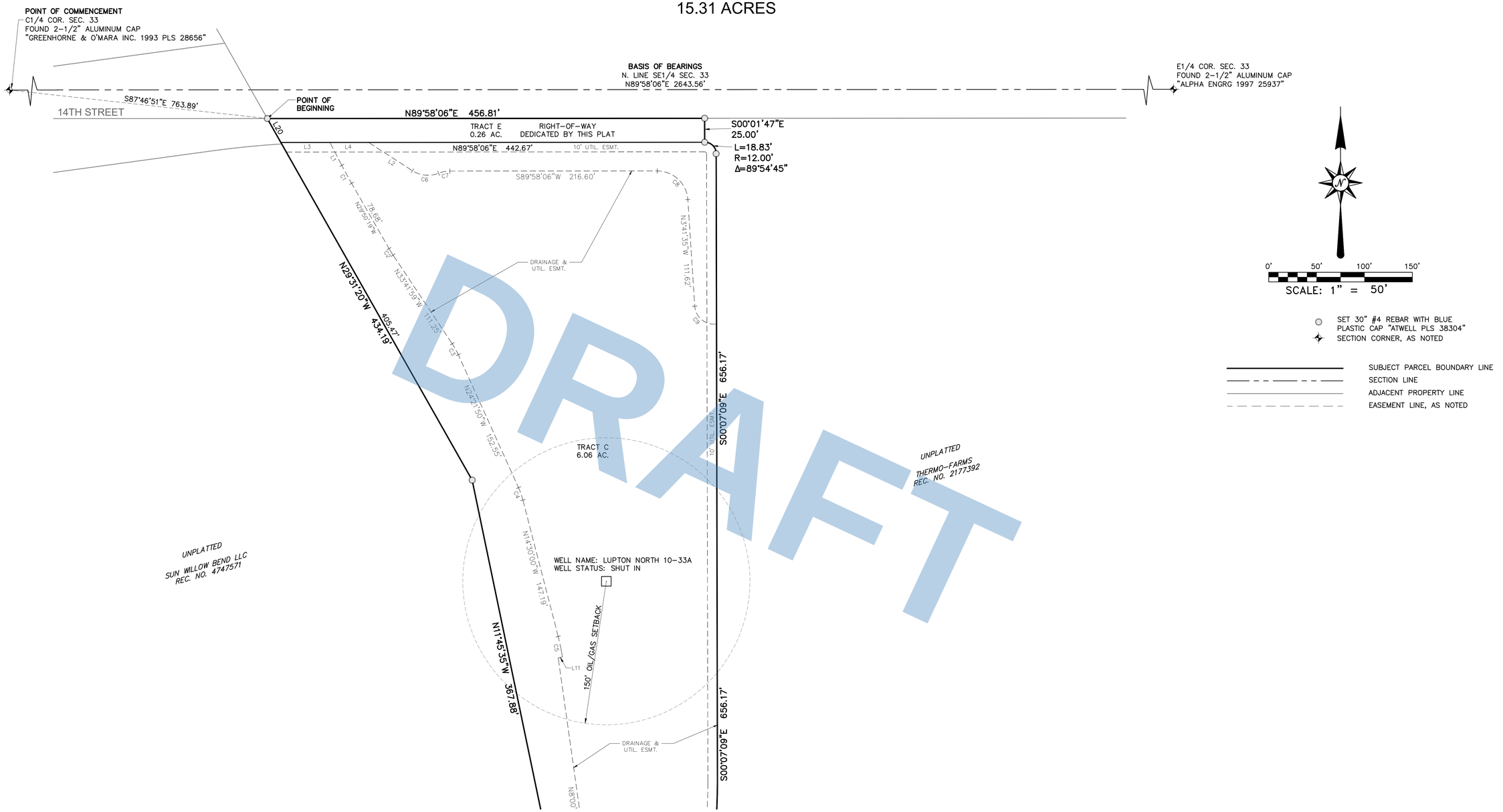
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COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES



DRAFT

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
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REVISIONS

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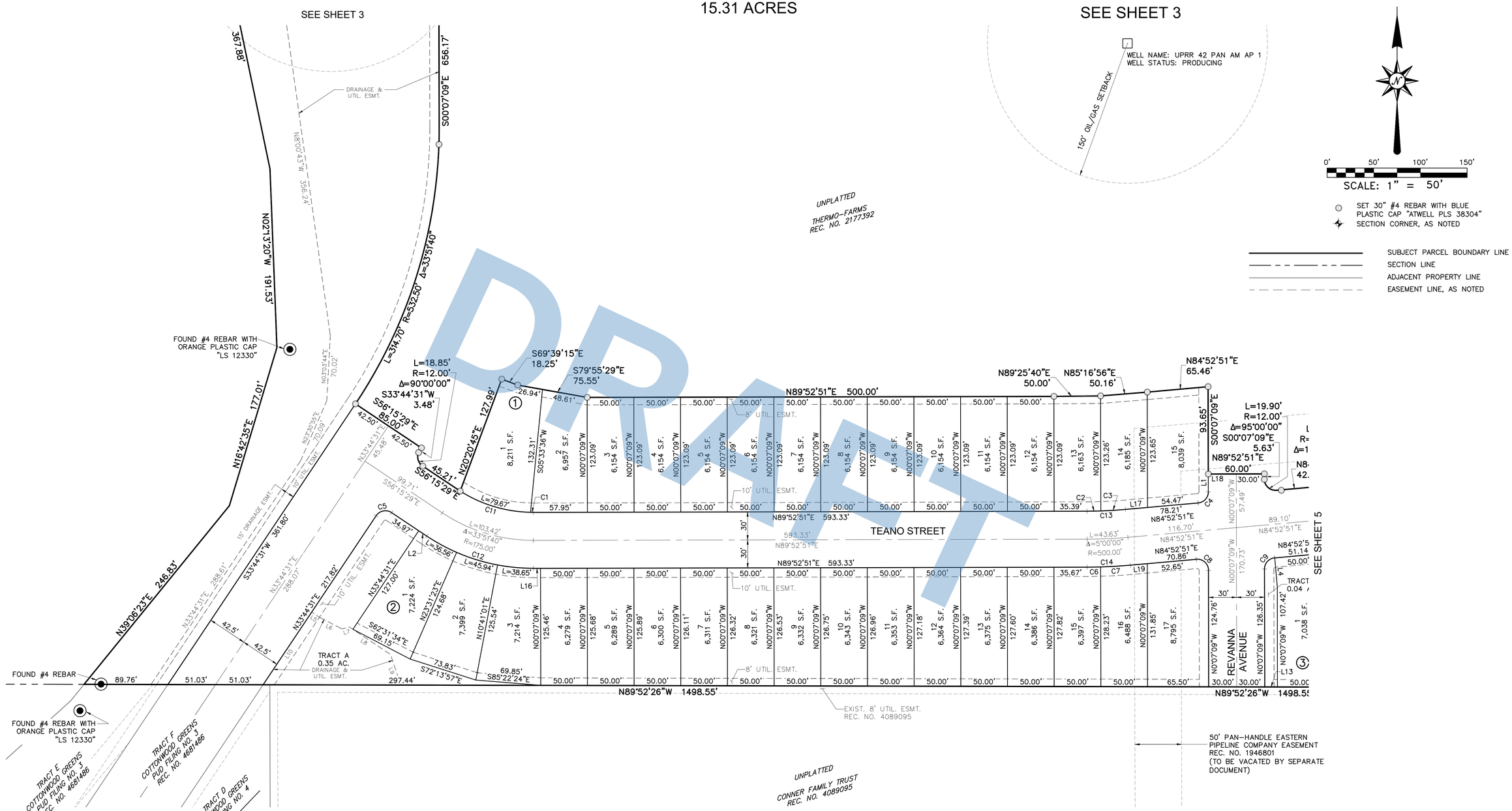
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

COLORADO LICENSED
MICHAEL LLOYD TWK
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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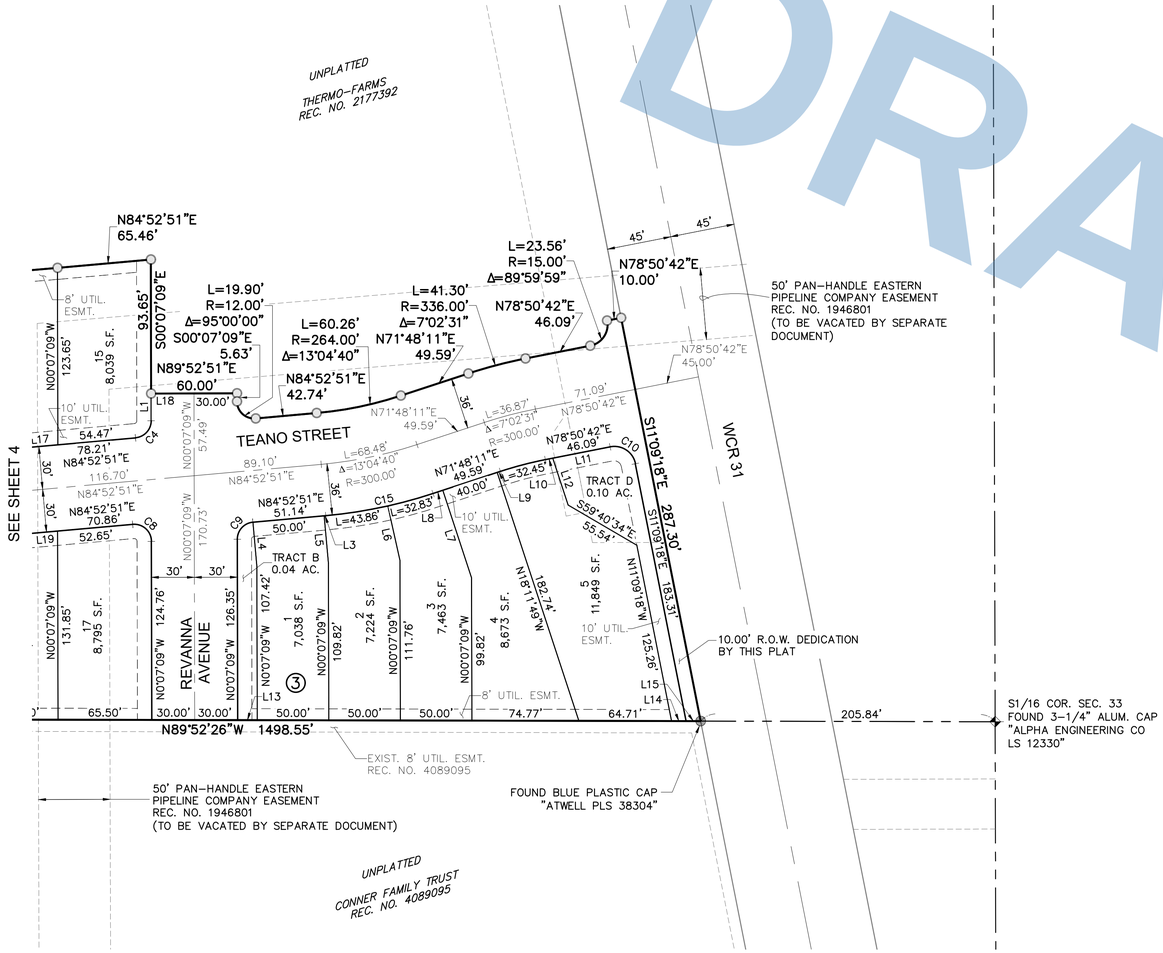
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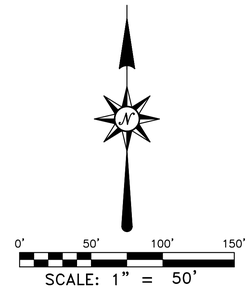
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED

- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LOT & TRACT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N00°07'09"W	19.01'
L2	S56°15'29"E	10.25'
L3	S84°52'51"W	1.14'
L4	N05°07'09"W	31.06'
L5	N05°07'09"W	33.24'
L6	N12°35'55"W	39.06'
L7	N18°11'49"W	64.35'
L8	S71°48'11"W	7.17'
L9	S71°48'11"W	2.42'
L10	S78°50'42"W	5.25'
L11	S78°50'42"W	40.84'
L12	N18°11'49"W	34.53'
L13	N89°52'26"W	13.66'
L14	N89°52'26"W	10.20'
L15	N89°52'26"W	10.20'
L16	S89°52'51"W	7.66'
L17	S84°52'51"W	23.74'
L18	N89°52'51"E	30.00'
L19	S84°52'51"W	18.21'
L20	N29°31'20"W	28.72'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	1°10'58"	145.00'	2.99'
C2	1°46'55"	470.00'	14.62'
C3	3°13'05"	470.00'	26.40'
C4	85°00'00"	12.00'	17.80'
C5	90°00'00"	12.00'	18.85'
C6	1°32'58"	530.00'	14.33'
C7	3°27'02"	530.00'	31.92'
C8	95°00'00"	12.00'	19.90'
C9	85°00'00"	12.00'	17.80'
C10	90°00'00"	15.00'	23.56'
C11	33°51'40"	145.00'	85.69'
C12	33°51'41"	205.00'	121.15'
C13	5°00'00"	470.00'	41.02'
C14	5°00'00"	530.00'	46.25'
C15	13°04'40"	336.00'	76.69'

EASEMENT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N27°23'50"W	27.00'
L2	N57°11'52"W	50.39'
L3	N89°58'20"E	51.23'
L4	N89°57'48"E	40.33'
L5	N56°15'29"W	9.45'
L6	N62°31'34"W	27.72'
L7	S75°36'29"W	8.22'
L8	N56°15'29"W	52.86'
L9	N18°38'56"W	34.67'
L10	N33°44'31"E	93.67'
L11	N75°30'00"E	4.58'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	2°26'29"	500.00'	21.30'
C2	3°51'40"	120.00'	8.09'
C3	9°20'09"	80.00'	13.04'
C4	9°51'50"	80.00'	13.77'
C5	3°46'40"	199.00'	13.12'
C6	54°30'15"	30.00'	28.54'
C7	21°40'13"	32.00'	12.10'
C8	86°20'19"	32.00'	48.22'
C9	86°25'34"	20.00'	30.17'

DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WELL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
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REVISIONS

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COTTONWOOD GREENS PUD FILING NO. 6

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 68°38'55" EAST 1323.87 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE DEPARTING SAID EASTERLY LINE NORTH 89°52'51" EAST 85.00 FEET;

THENCE SOUTH 00°07'09" EAST 11.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 3.00 FEET;

THENCE NORTH 00°07'09" WEST 125.31 FEET;

THENCE NORTH 89°52'51" EAST 315.21 FEET;

THENCE SOUTH 00°07'09" EAST 113.31 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 72.18 FEET;

THENCE NORTH 89°49'35" EAST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 264.59 FEET;

THENCE NORTH 89°52'51" EAST 85.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 170.00 FEET;

THENCE 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";

THENCE SOUTH 50°22'42" EAST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;

THENCE 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";

THENCE SOUTH 64°00'29" EAST 46.81 FEET;

THENCE SOUTH 31°39'11" EAST 73.97 FEET;

THENCE SOUTH 20°06'58" EAST 72.65 FEET;

THENCE SOUTH 07°57'50" EAST 73.78 FEET;

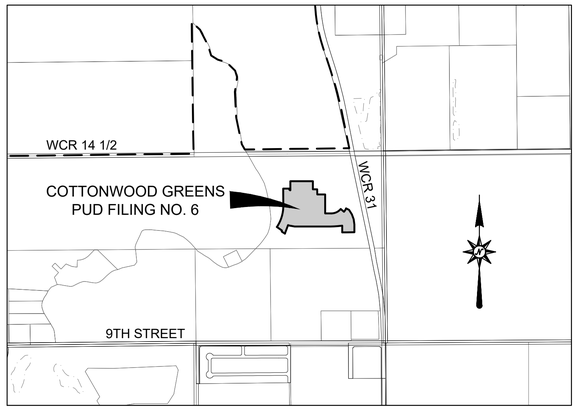
THENCE SOUTH 00°07'09" EAST 180.09 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE ALONG THE BOUNDARY OF SAID COTTONWOOD GREENS PUD FILING NO. 5 THE FOLLOWING SIXTEEN (16) COURSES:

1. SOUTH 00°07'09" EAST 1.46 FEET;
2. SOUTH 89°52'51" WEST 60.00 FEET;
3. NORTH 00°07'09" WEST 93.65 FEET;
4. SOUTH 84°52'51" WEST 65.46 FEET;
5. SOUTH 85°16'56" WEST 50.16 FEET;
6. SOUTH 89°25'40" WEST 50.00 FEET;
7. SOUTH 89°52'51" WEST 500.00 FEET;
8. NORTH 79°55'29" WEST 75.55 FEET;
9. NORTH 69°39'15" WEST 18.25 FEET;
10. SOUTH 20°20'45" WEST 127.99 FEET;
11. NORTH 56°15'29" WEST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
12. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
13. NORTH 33°44'31" EAST 3.48 FEET;
14. NORTH 56°15'29" WEST 85.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 532.50 FEET AND A CENTER WHICH BEARS NORTH 56°15'29" WEST;
15. 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40";
16. NORTH 00°17'09" WEST 240.47 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 442,010 SQUARE FEET, OR 10.15 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 6, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 6 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

FILE NO.	21002209 CC FLG 6
DATE	02/02/2022
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CHECK BY	MLP
JOB NO.	21002209

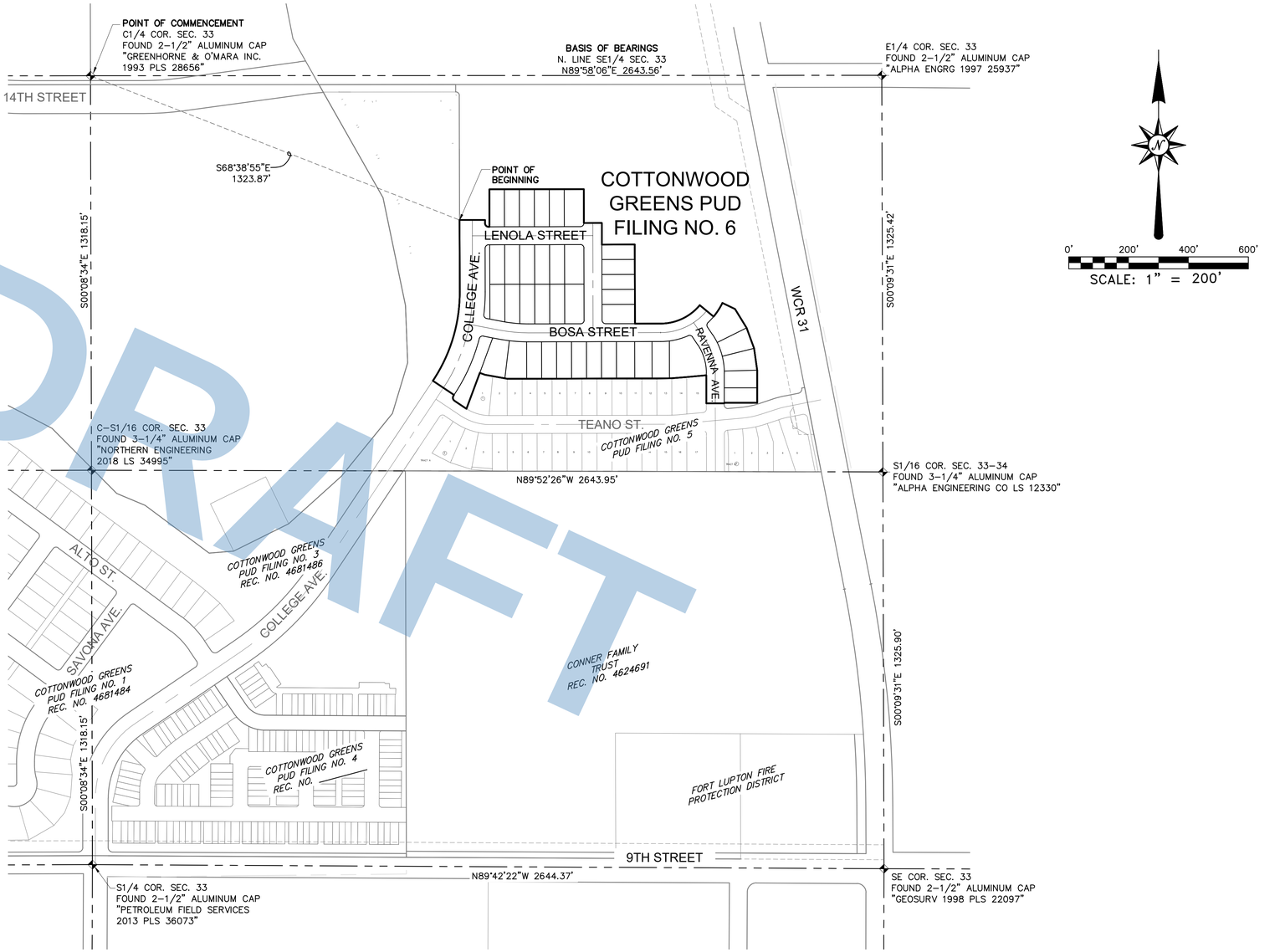
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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	10,531	0.24	UTILITIES, OPEN SPACE	METRO DISTRICT
B	3,958	0.09	UTILITIES, OPEN SPACE	METRO DISTRICT
	14,489	0.33		
LOTS (39)	276,524	6.34		
RIGHT-OF-WAY	151,601	3.48		
TOTAL	442,010	10.15		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 443,518 SQARE FEET, OR 10.18 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD POOL
PROFESSIONAL LAND SURVEYOR
38304

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 4

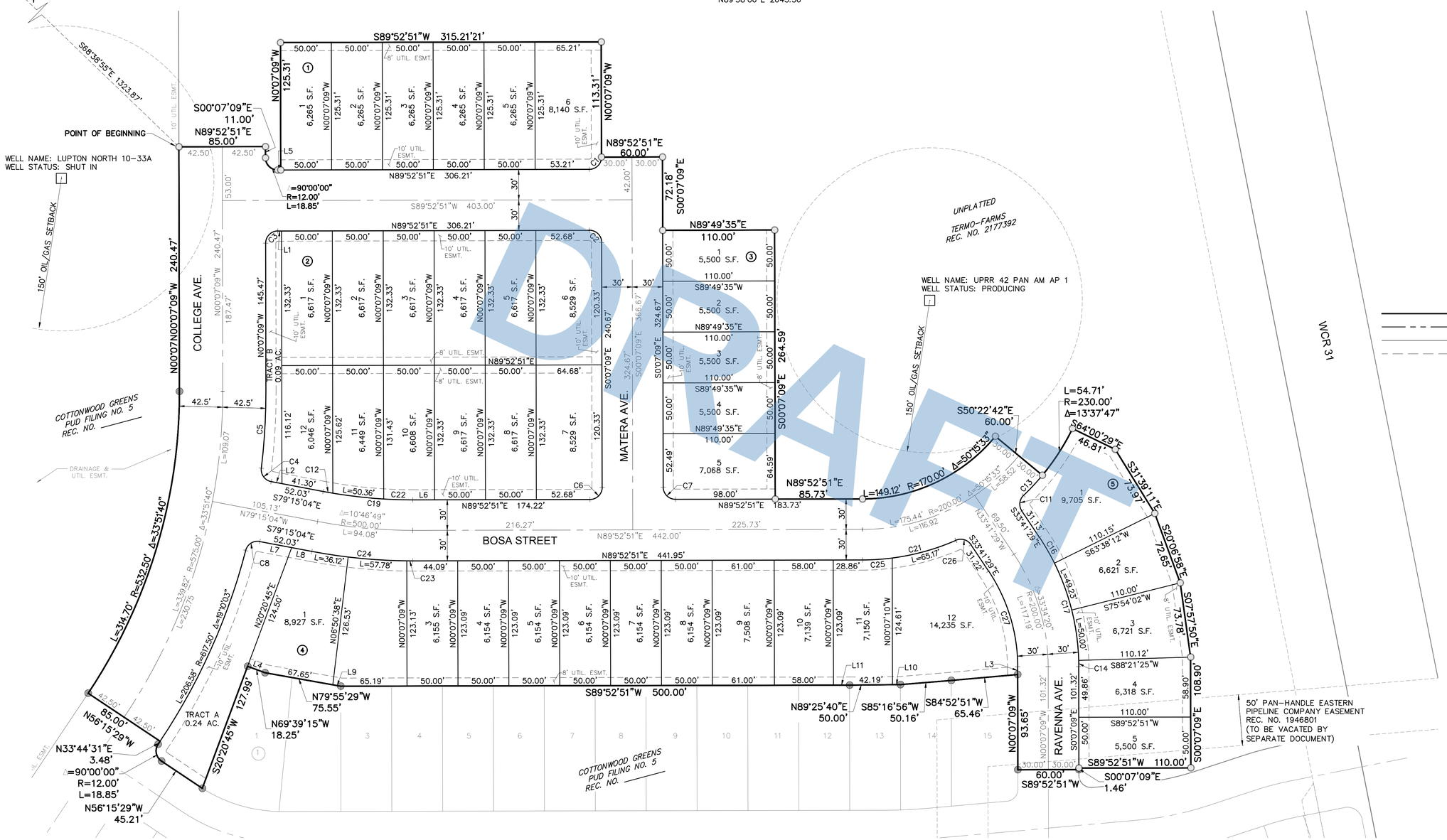
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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX


POINT OF COMMENCEMENT
C1/4 COR. SEC. 33
FOUND 2-1/2" ALUMINUM CAP
"GREENHORNE & O'MARA INC. 1993 PLS 28656"
BASIS OF BEARINGS
N. LINE SE1/4 SEC. 33
N89°58'06"E 2643.56'
E1/4 COR. SEC. 33
FOUND 2-1/2" ALUMINUM CAP
"ALPHA ENGRG 1997 25937"
S68°38'55"E 1323.87'
POINT OF BEGINNING
S00°07'09"E 11.00'
N89°52'51"E 85.00'
WELL NAME: LUPTON NORTH 10-33A
WELL STATUS: SHUT IN
150' OIL/GAS SETBACK
N00°07'09"W 240.47'
COLLEGE AVE.
S89°52'51"W 315.21'21'
N89°52'51"E 60.00'
N89°52'51"E 306.21'
S89°52'51"W 403.00'
=90°00'00" R=12.00' L=18.85'
S00°07'09"E 72.18'
N89°49'35"E 110.00'
UNPLATTED
TERMO-FARMS
REC. NO. 2177392
WELL NAME: UPRR 42 PAN AM AP 1
WELL STATUS: PRODUCING
150' OIL/GAS SETBACK
L=54.71' R=230.00' Δ=13°37'47"
S64°00'29"E 46.81'
S31°39'11"E 73.97'
S20°06'58"E 72.65'
S07°57'50"E 73.78'
S00°07'09"E 108.90'
S50°22'42"E 60.00'
N89°52'51"E 85.73'
L=149.12' R=170.00' Δ=50°16'33"
S33°41'29"W 69.50'
L=175.44' R=200.00' Δ=50°16'33"
S33°41'29"W 31.22'
S33°41'29"W 31.13'
WCR 31
COTTONWOOD GREENS PUD FILING NO. 5 REC. NO.
DRAINAGE & UTIL. ESMT.
L=109.07
L=314.70' R=532.50' Δ=33°51'40"
L=339.82' R=575.00' Δ=33°51'40"
L=230.75
N33°44'31"E 3.48'
=90°00'00" R=12.00' L=18.85'
N56°15'29"W 45.21'
N56°15'29"W 85.00'
TRACT A 0.24 AC.
S20°20'45"W 127.99'
N69°39'15"W 18.25'
N79°55'29"W 75.55'
S89°52'51"W 500.00'
N89°25'40"E 50.00'
S85°16'56"W 50.16'
S84°52'51"W 65.46'
N00°07'09"W 93.65'
S89°52'51"W 60.00'
S00°07'09"E 1.46'
RAVENNA AVE.
MATERA AVE.
BOSA STREET
N79°15'04"W 105.13'
S79°15'04"E 52.03'
L=50.36'
N89°52'51"E 174.22'
Δ=10°46'49" R=500.00' L=94.08'
N89°52'51"E 216.27'
N89°52'51"E 225.73'
N89°52'51"E 442.00'
N89°52'51"E 441.95'
L=206.58' R=617.50' Δ=19°10'03"
N20°20'45"E 124.50'
N06°50'38"E 126.53'
TRACT B 0.09 AC.
L=109.07
S79°15'04"E 52.03'
L=36.12'
L=57.78'
L=65.17'
L=49.23'
L=117.19'
R=200.00'
S33°41'29"W 31.22'
S33°41'29"W 31.13'
S33°41'29"W 69.50'
L=175.44' R=200.00' Δ=50°16'33"
L=116.92

COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N89°52'51"E	3.53'
L2	N79°15'04"W	10.73'
L3	S0°07'09"E	7.67'
L4	N69°39'15"W	18.25'
L5	S89°52'51"W	3.00'
L6	S89°52'51"W	21.54'
L7	N79°15'04"W	31.86'
L8	N79°15'04"W	20.17'
L9	N79°55'29"W	7.90'
L10	N89°25'40"E	7.81'
L11	N89°52'51"E	15.81'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	12.00'	18.85'
C2	90°00'00"	12.00'	18.85'
C3	90°00'00"	12.00'	18.85'
C4	86°10'28"	12.00'	18.05'
C5	7°02'32"	617.50'	75.90'
C6	90°00'00"	12.00'	18.85'
C7	90°00'00"	12.00'	18.85'
C8	86°10'28"	12.00'	18.05'
C11	80°04'13"	12.00'	16.77'
C12	1°10'11"	470.00'	9.59'
C13	6°45'26"	230.00'	27.13'
C14	1°31'26"	230.00'	6.12'
C16	7°19'40"	230.00'	29.42'
C17	33°34'20"	230.00'	134.77'
C19	10°46'49"	470.00'	88.43'
C21	23°30'47"	230.00'	94.39'
C22	3°28'17"	470.00'	28.48'
C23	0°38'17"	530.49'	5.91'
C24	10°46'49"	530.49'	99.81'
C25	7°16'45"	230.00'	29.22'
C26	79°56'27"	12.00'	16.74'
C27	33°34'20"	170.00'	99.61'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PRATT
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

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REVISIONS

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OF 4

FILE NO.	21002209 CC FLE 6
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COTTONWOOD GREENS PUD FILING NO. 7

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

14.45 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 88°37'23" EAST 1220.47 FEET TO THE NORTH LINE OF SAID THERMO–FARMS, ALSO BEING THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID NORTH LINE NORTH 89°58'06" EAST 965.96 FEET TO THE NORTHEAST CORNER OF SAID THERMO–FARMS, ALSO BEING THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY 31;

THENCE ALONG THE EASTERLY LINE OF SAID THERMO–FARMS AND ALONG SAID WESTERLY RIGHT–OF–WAY LINE SOUTH 11°09'18" EAST 1032.34 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING SAID EASTERLY LINE AND SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID NORTHERLY LINE THE FOLLOWING EIGHT (8) COURSES:

1. SOUTH 78°50'42" WEST 10.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AND A CENTER WHICH BEARS SOUTH 78°50'43" WEST;
2. 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59";
3. SOUTH 78°50'42" WEST 46.09 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 336.00 FEET;
4. 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31";
5. SOUTH 71°48'11" WEST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 264.00 FEET;
6. 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40";
7. SOUTH 84°52'51" WEST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
8. 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 6 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

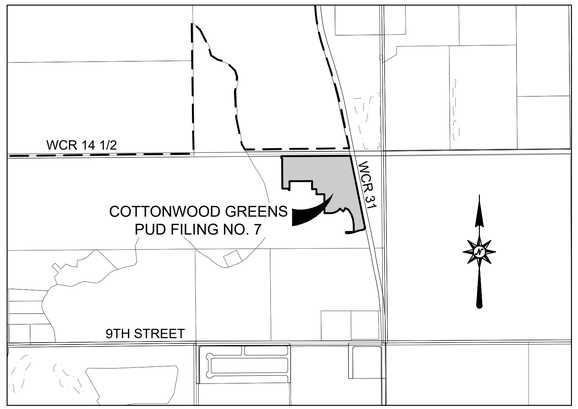
THENCE DEPARTING SAID NORTHERLY LINE AND ALONG THE EASTERLY AND NORTHERLY LINES OF SAID COTTONWOOD GREENS PUD FILING NO. 6 THE FOLLOWING TWENTY–TWO (22) COURSES:

1. NORTH 00°07'09" WEST 7.10 FEET;
2. NORTH 89°52'51" EAST 110.00 FEET;
3. NORTH 00°07'09" WEST 108.90 FEET;
4. NORTH 07°57'50" WEST 73.78 FEET;
5. NORTH 20°06'58" WEST 72.65 FEET;
6. NORTH 31°39'11" WEST 73.97 FEET;
7. NORTH 64°00'29" WEST 46.81 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 64°00'29" WEST;
8. 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";
9. NORTH 50°22'42" WEST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 170.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;
10. 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";
11. SOUTH 89°52'51" WEST 85.73 FEET;
12. NORTH 00°07'09" WEST 264.59 FEET;
13. SOUTH 89°49'35" WEST 110.00 FEET;
14. NORTH 00°07'09" WEST 72.18 FEET;
15. SOUTH 89°52'51" WEST 60.00 FEET;
16. NORTH 00°07'09" WEST 113.31 FEET;
17. SOUTH 89°52'51" WEST 315.21 FEET;
18. SOUTH 00°07'09" EAST 125.31 FEET;
19. SOUTH 89°52'51" WEST 3.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
20. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
21. NORTH 00°07'09" WEST 11.00 FEET;
22. SOUTH 89°52'51" WEST 85.00 FEET TO THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 6 AND ALONG SAID EASTERLY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 00°07'09" WEST 415.70 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;
2. 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45";
3. NORTH 00°01'47" WEST 25.00 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 629,556 SQUARE FEET, OR 14.45 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 7, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 7 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

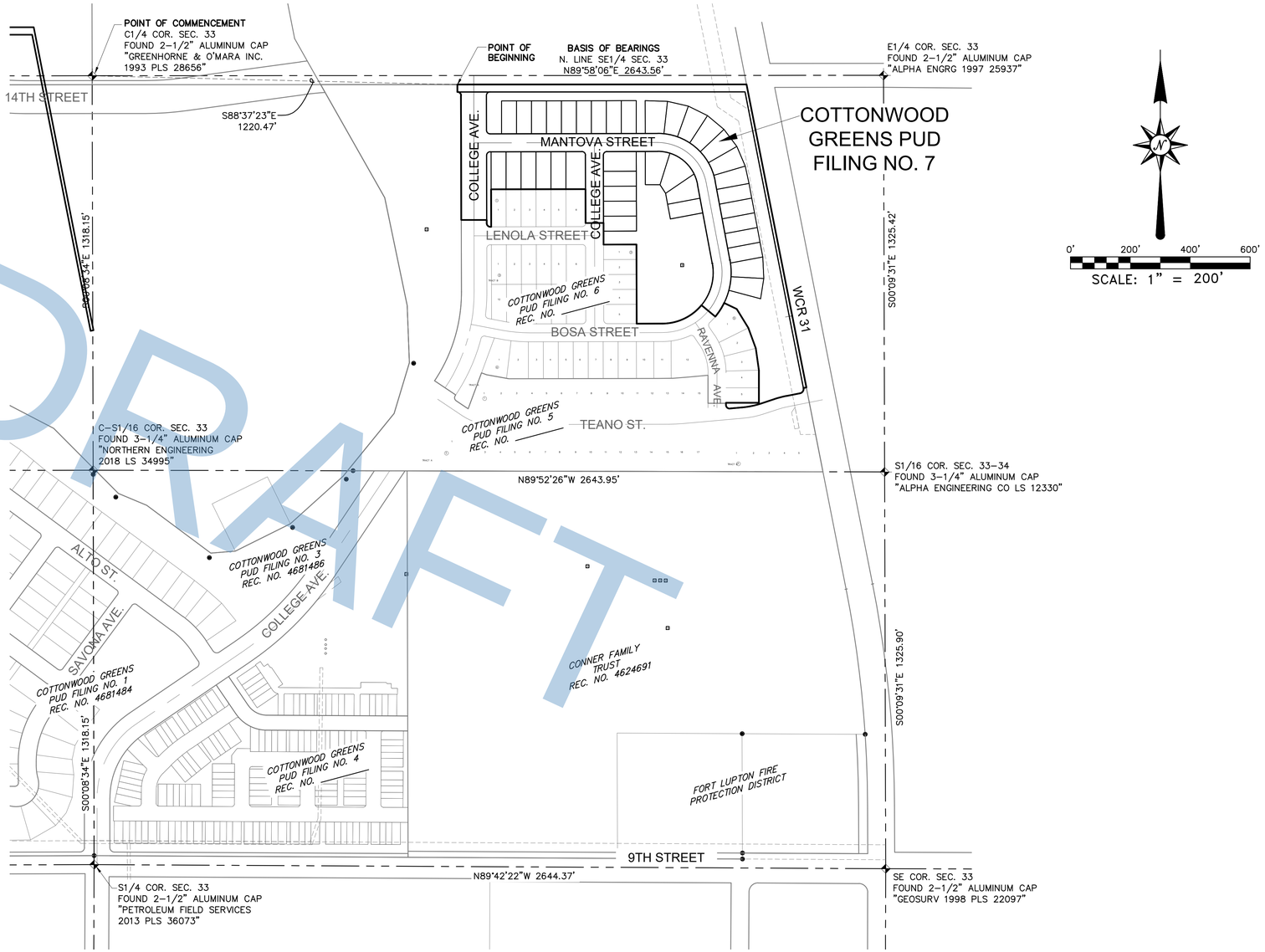
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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,697	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	133,498	3.06	UTILITIES, OPEN SPACE	METRO DISTRICT
C	101,697	2.33	UTILITIES, OPEN SPACE	METRO DISTRICT
D	34,289	0.79	RIGHT-OF-WAY	CITY OF FORT LUPTON
	273,181	6.26		
LOTS				
(38)	230,880	5.31		
RIGHT-OF-WAY	125,495	2.88	(159,784 S.F. 3.67 AC. INCL. TRACT D)	
TOTAL	629,556	14.45		



DRAFT

DEVELOPER/APPLICANT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
JIM RIGHEIMER
4040 MacARTHUR BLVD., #250
NEWPORT BEACH, CA 92660 (303) 905-3496

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 637,767 SQARE FEET, OR 14.64 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 4

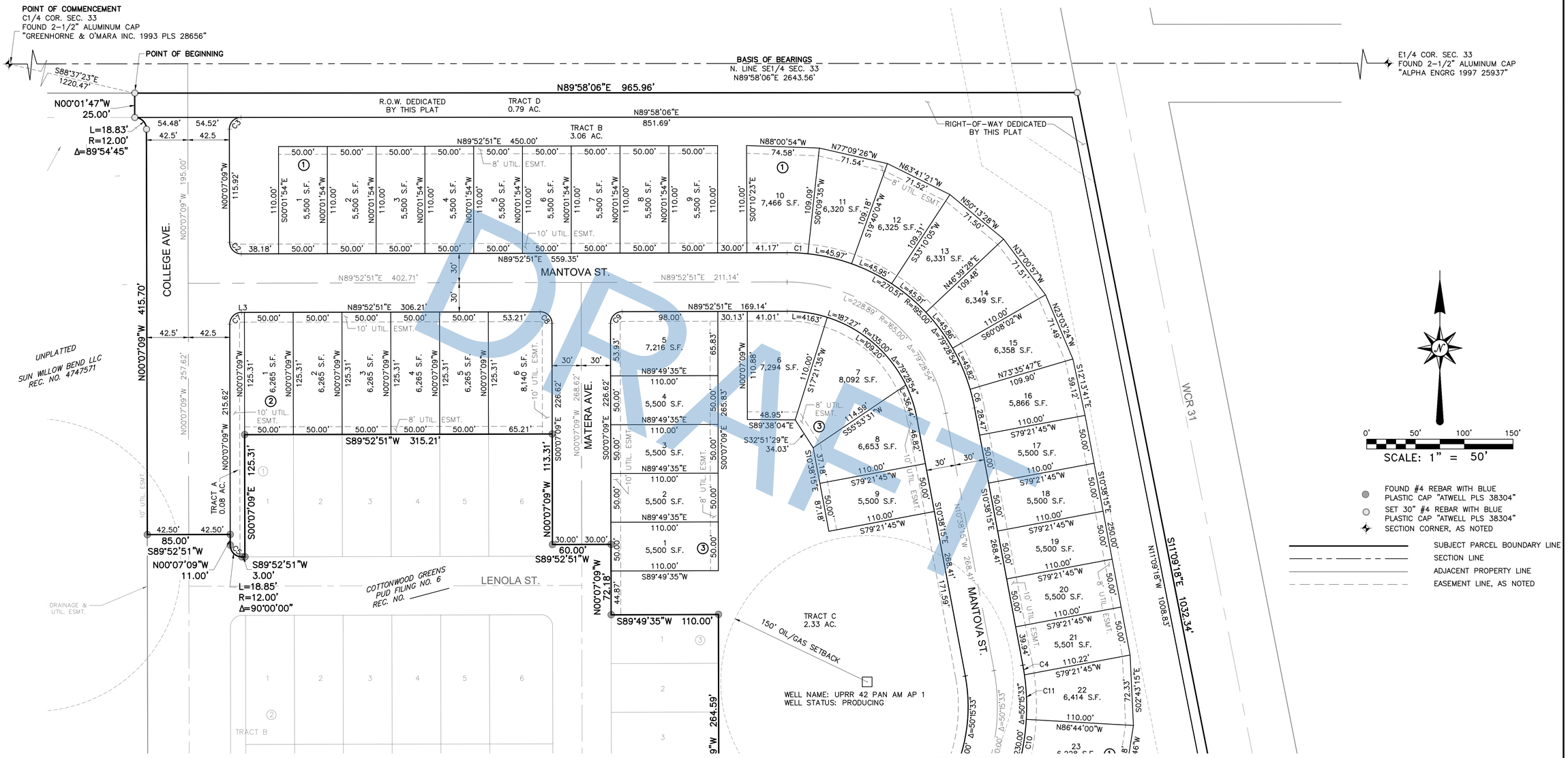
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED

- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD CHILDS
32204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

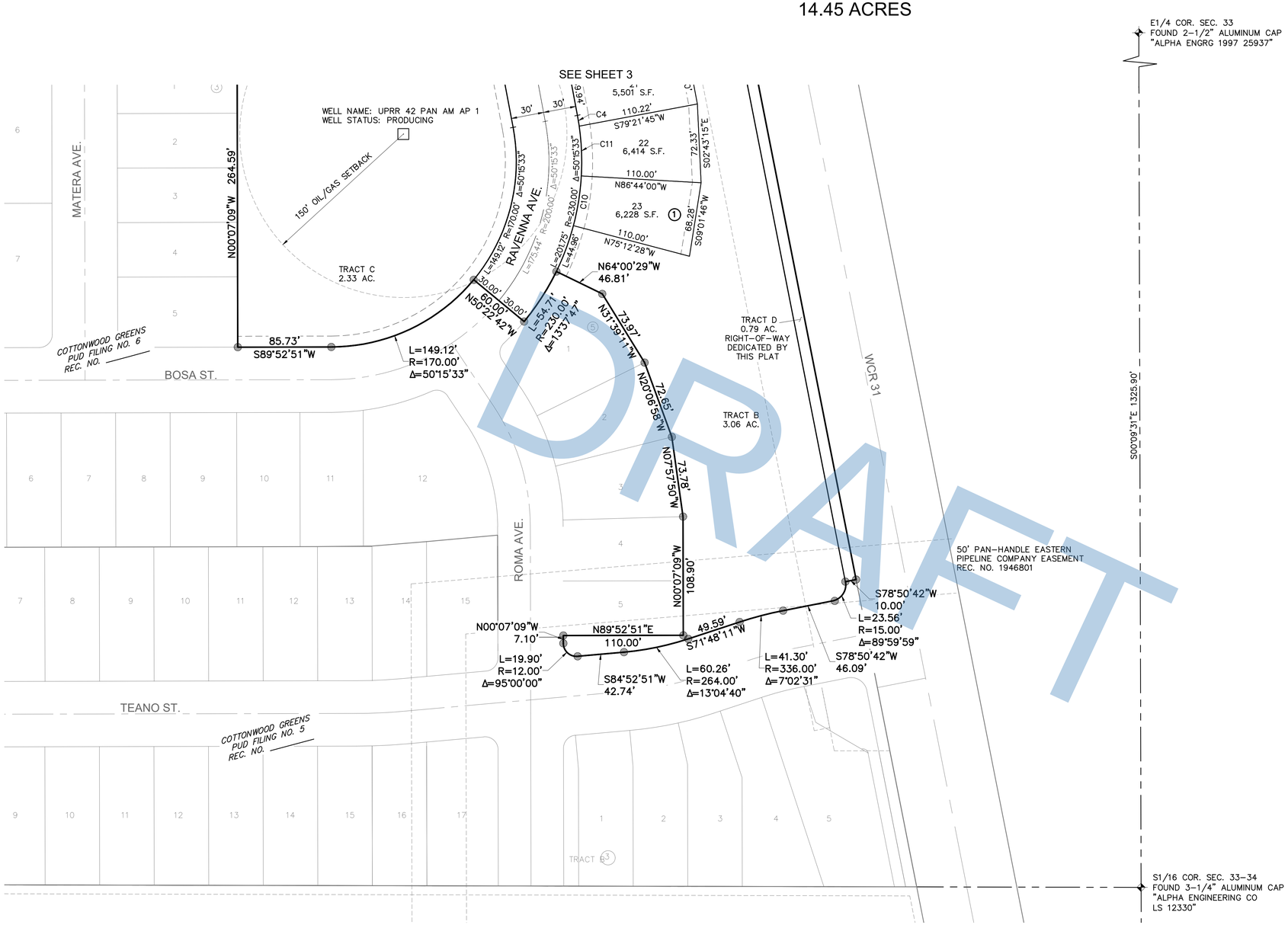
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DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L3	N89°52'51"E	306.21'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	6°16'43"	195.00'	21.37'
C2	90°00'00"	12.00'	18.85'
C3	90°05'15"	12.00'	18.87'
C4	2°30'24"	230.00'	10.06'
C5	90°00'00"	12.00'	18.85'
C6	5°45'58"	195.00'	19.62'
C7	90°00'00"	12.00'	18.85'
C8	90°00'00"	12.00'	18.85'
C9	90°00'00"	12.00'	18.85'
C10	11°31'31"	230.00'	46.27'
C11	11°23'52"	230.00'	45.75'

DRAFT
PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WANG
32204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
4
OF 4

FILE NO.	21002209 CC FLC 7
DATE	02/02/2022
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COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 38°32'50" EAST 1688.35 FEET TO THE NORTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTHEAST CORNER OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____ ____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTH LINE OF SAID CONNER FAMILY TRUST, AND ALONG THE SOUTH LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5 SOUTH 89°52'26" EAST 1065.75 FEET;

THENCE DEPARTING SAID NORTH AND SOUTH LINES SOUTH 00°07'09" EAST 123.08 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE SOUTH 00°07'09" EAST 10.00 FEET;

THENCE SOUTH 89°52'51" WEST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 88.00 FEET;

THENCE SOUTH 89°52'51" WEST 110.51 FEET;

THENCE SOUTH 00°07'09" EAST 105.00 FEET;

THENCE SOUTH 89°52'51" WEST 584.88 FEET;

THENCE SOUTH 00°07'09" EAST 383.92 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 3.84 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

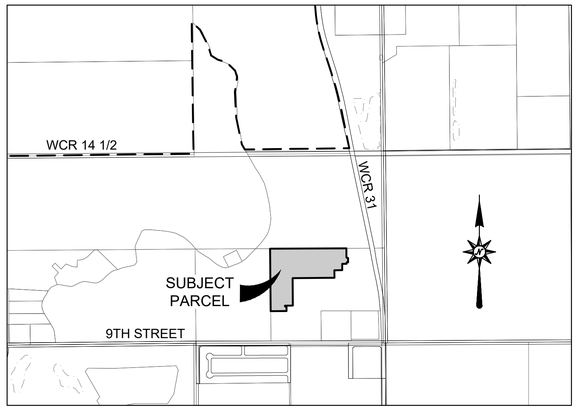
THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE NORTH 89°59'48" WEST 222.00 FEET TO THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG SAID EAST LINE NORTH 00°08'34" WEST 873.93 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 553,160 SQUARE FEET, OR 12.70 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 8, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 8 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

FILE NO.	21002209 CC FLG 8
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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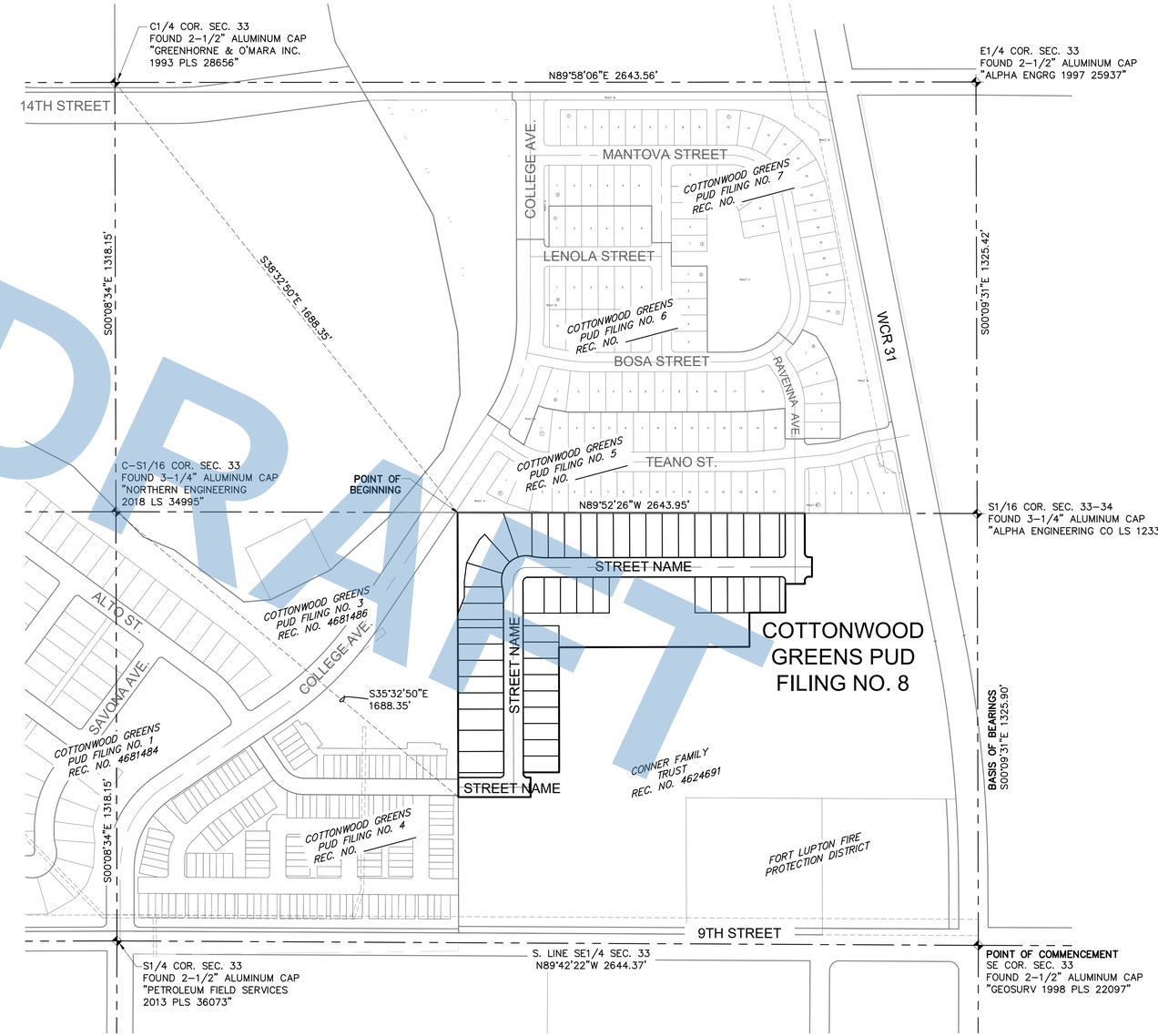
COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,505	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	2,314	0.05	UTILITIES, OPEN SPACE	METRO DISTRICT
C	1,895	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
D	94,609	2.17	UTILITIES, OPEN SPACE	METRO DISTRICT
E	22,042	0.51	UTILITIES, OPEN SPACE	METRO DISTRICT
	124,365	2.85		
LOTS (47)	311,416	7.15		
RIGHT-OF-WAY	116,573	2.68		
TOTAL	552,354	12.68		



DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 553,160 SQARE FEET, OR 12.70 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING SOUTH 00°09'31" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 3

FILE NO.	21002209 CC FLC 8
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

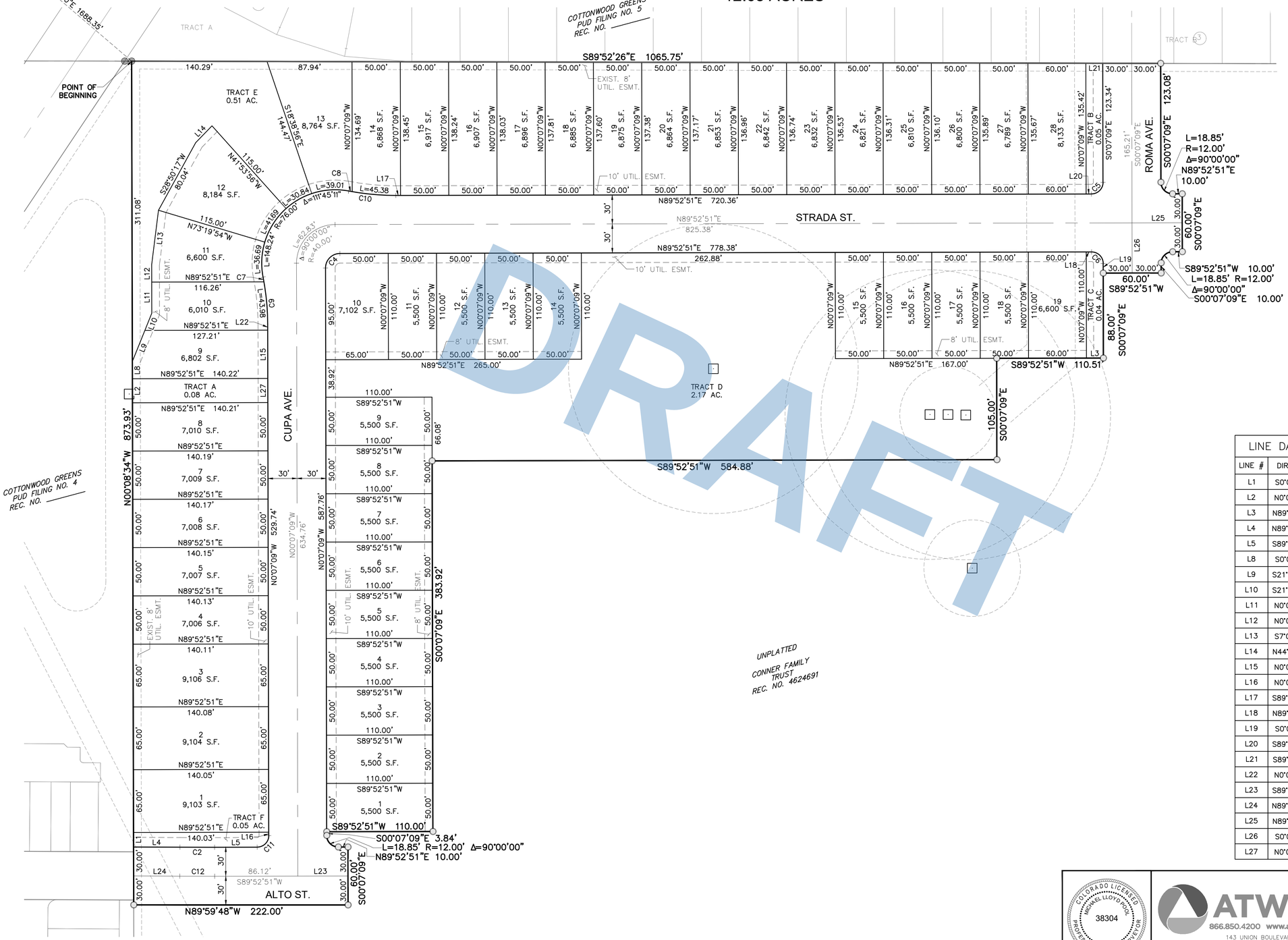
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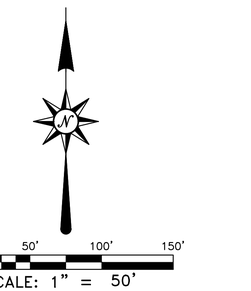
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COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED

- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S0°08'34"E	15.02'
L2	N0°08'34"W	25.00'
L3	N89°52'51"E	17.51'
L4	N89°42'22"W	48.07'
L5	S89°52'51"W	44.12'
L8	S0°08'34"E	17.82'
L9	S21°54'31"W	34.71'
L10	S21°54'31"W	19.22'
L11	N0°07'09"W	32.18'
L12	N0°07'09"W	17.82'
L13	S7°04'12"W	57.05'
L14	N44°14'16"E	24.10'
L15	N0°07'09"W	50.00'
L16	N0°07'09"W	3.50'
L17	S89°52'51"W	4.85'
L18	N89°52'51"E	5.51'
L19	S0°07'09"E	10.00'
L20	S89°52'51"W	5.51'
L21	S89°52'26"E	17.51'
L22	N0°07'09"W	6.24'
L23	S89°52'51"W	52.00'
L24	N89°42'22"W	47.84'
L25	N89°52'51"E	52.00'
L26	S0°07'09"E	52.00'
L27	N0°07'09"W	25.00'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C2	0°24'47"	4970.00'	35.84'
C4	90°00'00"	15.00'	23.56'
C5	90°00'00"	12.00'	18.85'
C6	90°00'00"	12.00'	18.85'
C7	1°06'37"	258.00'	5.00'
C8	0°47'55"	258.00'	3.60'
C9	10°52'36"	258.00'	48.98'
C10	10°52'36"	258.00'	48.98'
C11	90°00'00"	12.00'	18.85'
C12	0°24'47"	5000.00'	36.05'

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 3

FILE NO.	21002209 CC FLC 8
DATE	02/02/2022
DRAWN BY	TWK
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 9

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 67°07'51" EAST 1137.10 FEET TO THE WEST LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTHWEST CORNER OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°59'48" EAST 222.00 FEET;
2. NORTH 00°07'09" WEST 60.00 FEET;
3. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
4. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
5. NORTH 00°07'09" WEST 3.84 FEET;
6. NORTH 89°52'51" EAST 110.00 FEET;
7. NORTH 00°07'09" WEST 383.92 FEET;
8. NORTH 89°52'51" EAST 584.88 FEET;
9. NORTH 00°07'09" WEST 105.00 FEET;
10. NORTH 89°52'51" EAST 110.51 FEET;
11. NORTH 00°07'09" WEST 88.00 FEET;
12. NORTH 89°52'51" EAST 60.00 FEET;

THENCE DEPARTING SAID SOUTHERLY LINE SOUTH 00°07'09" EAST 222.76 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37";

THENCE SOUTH 60°12'00" EAST 27.33 FEET;

THENCE SOUTH 29°48'00" WEST 60.00 FEET;

THENCE NORTH 60°12'00" WEST 27.25 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04";

THENCE SOUTH 42°57'02" EAST 107.80 FEET;

THENCE SOUTH 00°17'38" WEST 40.73 FEET TO THE BOUNDARY LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS;

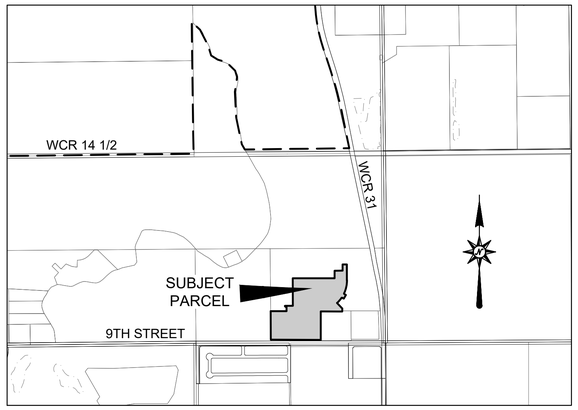
THENCE ALONG SAID BOUNDARY LINE AND ALONG THE NORTH AND WEST LINES OF SAID PARCEL OF LAND THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 301.01 FEET;
2. SOUTH 00°09'48" EAST 398.65 FEET TO THE SOUTH LINE OF SAID TRACT OF LAND;

THENCE ALONG SAID SOUTH LINE NORTH 89°42'22" WEST 699.60 FEET TO THE SOUTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG THE WEST LINE OF SAID CONNER FAMILY TRUST AND ALONG SAID EAST LINE NORTH 00°08'34" WEST 397.30 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 636,491 SQUARE FEET, OR 14.61 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 9, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 9 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:
_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 3

FILE NO. 21002209 CC FLG 9
DATE 01/12/2022
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002209

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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,464	1.00	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,812	0.64	UTILITIES, OPEN SPACE	METRO DISTRICT
C	29,137	0.67	UTILITIES, OPEN SPACE	METRO DISTRICT
D	136,710	3.14	UTILITIES, OPEN SPACE	METRO DISTRICT
E	1,091	0.03	UTILITIES, OPEN SPACE	METRO DISTRICT
	241,213	5.48		
LOTS (36)	245,482	5.69		
RIGHT-OF-WAY	149,796	3.44		
TOTAL	636,491	14.61		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

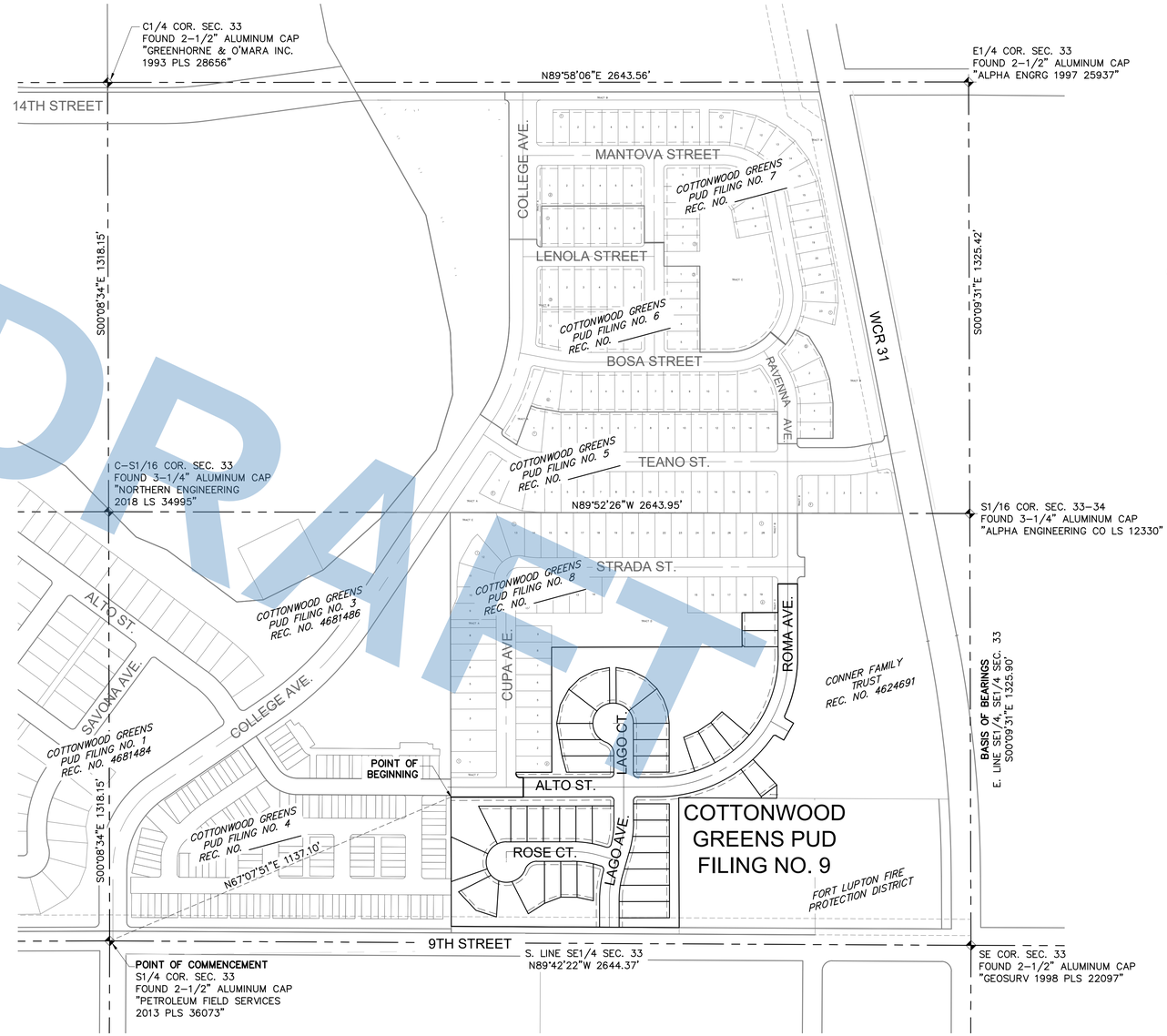
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NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

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REVISIONS

SHEET 2 OF 3

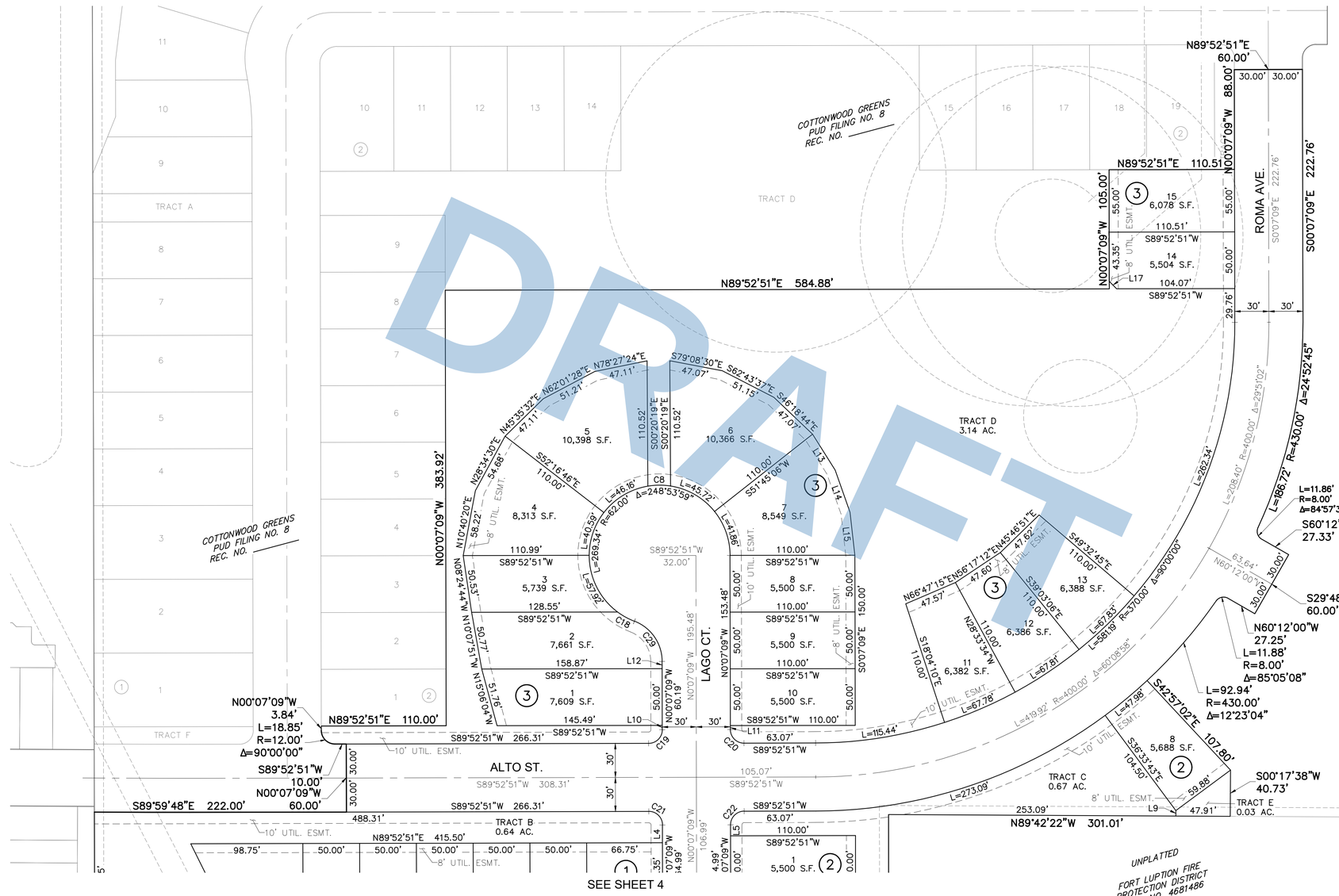
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DATE	01/12/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

0' 50' 100' 150'
SCALE: 1" = 50'

- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

COLORADO LICENSED
MICHAEL LLOYD PROU
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 4

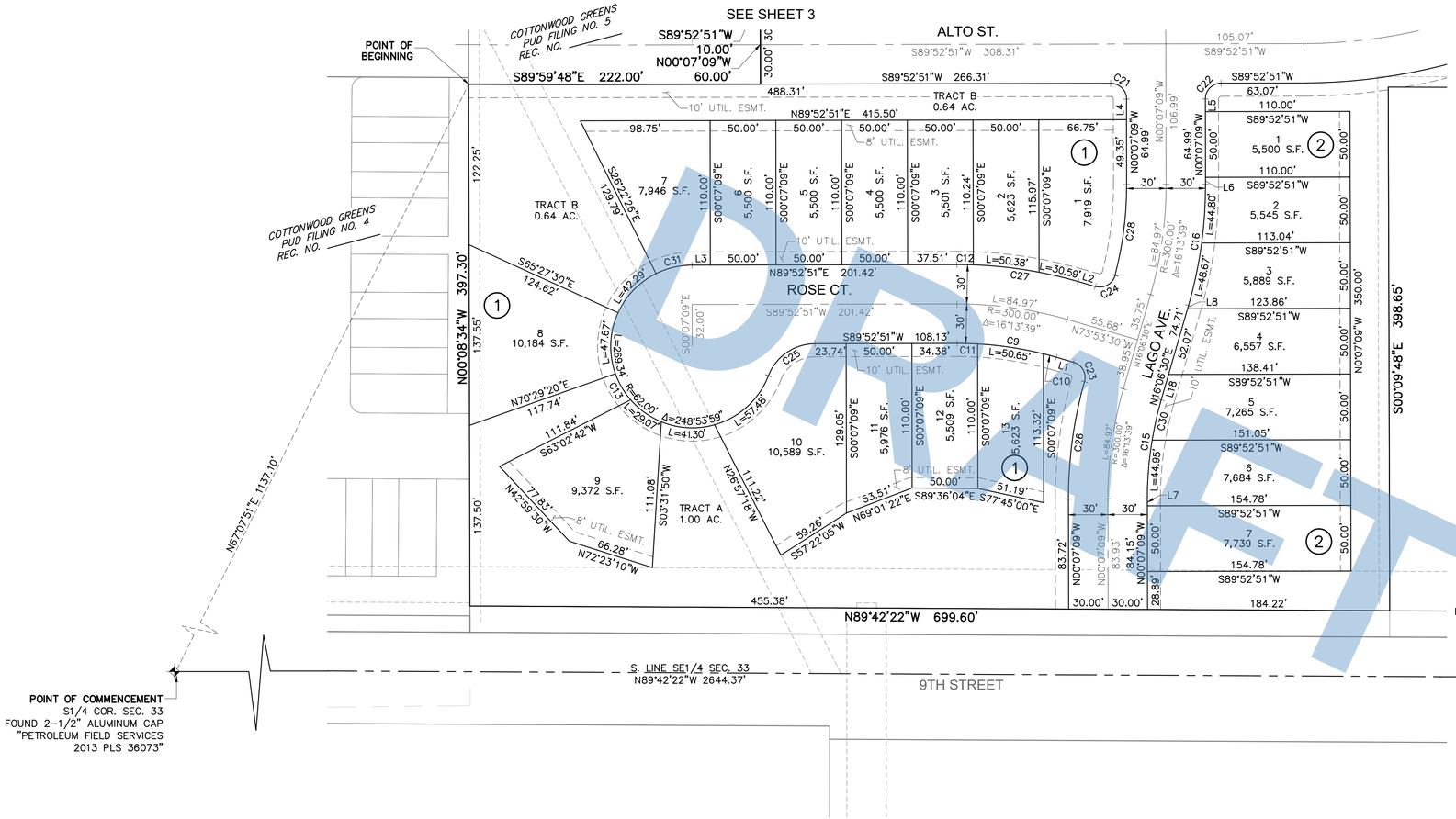
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DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

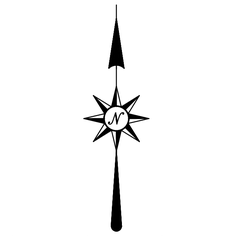
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N73°53'30"W	13.69'
L2	N73°53'30"W	13.60'
L3	S89°52'51"W	13.91'
L4	N0°07'09"W	15.64'
L5	S0°07'09"E	9.65'
L6	S0°07'09"E	5.34'
L7	N0°07'09"W	5.26'
L8	N16°06'30"E	2.54'
L9	S0°17'38"W	4.82'
L10	N0°07'09"W	3.84'
L11	N0°07'09"W	3.48'
L12	N0°07'09"W	6.35'
L13	N32°12'21"W	37.40'
L14	N19°23'50"W	39.34'
L15	N6°28'30"W	38.08'
L17	N44°09'34"W	9.25'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C8	18°33'49"	62.00'	20.09'
C9	16°13'39"	270.00'	76.47'
C10	2°09'45"	270.00'	10.19'
C11	3°18'56"	270.00'	15.62'
C12	2°10'09"	330.00'	12.49'
C13	21°20'53"	62.00'	23.10'
C15	16°13'39"	270.00'	76.47'
C16	16°13'39"	330.00'	93.46'
C18	15°42'19"	62.00'	16.99'
C19	90°00'00"	12.00'	18.85'
C20	90°00'00"	12.00'	18.85'
C21	90°00'00"	12.00'	18.85'
C22	90°00'00"	12.00'	18.85'
C23	89°29'22"	12.00'	18.74'
C24	91°23'15"	12.00'	19.14'
C25	68°53'59"	38.00'	45.70'
C26	15°43'01"	330.00'	90.52'
C27	16°13'39"	330.00'	93.46'
C28	14°50'25"	270.00'	69.93'
C29	68°53'59"	38.00'	45.70'
C30	6°41'21"	270.00'	31.52'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PEOU
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

FILE NO. 21002209 CC FLG 8
DATE 10/XX/2021
DRAWN BY TWK
CHECK BY MLP
JOB NO. 21002209

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COTTONWOOD GREENS PUD FILING NO. 10

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33;

THENCE NORTH 08°41'56" WEST 454.22 FEET TO A CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 3220873, WELD COUNTY RECORDS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID CONNER FAMILY TRUST AND ALONG THE NORTH LINE OF SAID PARCEL OF LAND AND THEN ALONG THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS NORTH 89°42'22" WEST 527.55 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 9, RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTH LINES AND ALONG SAID EASTERLY LINE THE FOLLOWING TEN (10) COURSES:

1. NORTH 00°17'38" EAST 40.73 FEET;
2. NORTH 42°57'02" WEST 107.80 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET AND A CENTER WHICH BEARS NORTH 42°54'05" WEST;
3. 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
4. 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08";
5. SOUTH 60°12'00" EAST 27.25 FEET;
6. NORTH 29°48'00" EAST 60.00 FEET;
7. NORTH 60°12'00" WEST 27.33 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
8. 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET;
9. 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45"
10. NORTH 00°07'09" WEST 222.76 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 9 AND ALONG THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING SEVEN (7) COURSES:

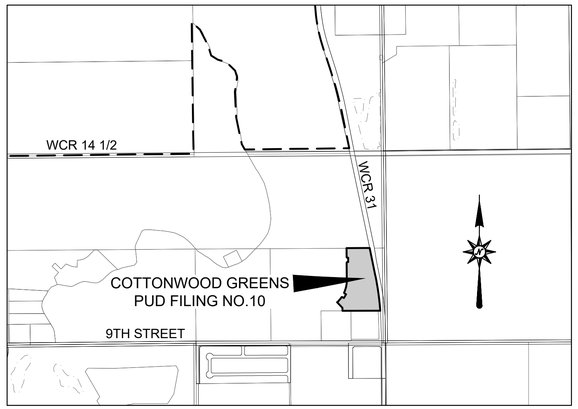
1. NORTH 00°07'09" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
2. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. NORTH 89°52'51" EAST 10.00 FEET;
4. NORTH 00°07'09" WEST 60.00 FEET;
5. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
7. NORTH 00°07'09" WEST 123.08 FEET TO THE NORTH LINE OF SAID TRACT OF LAND, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE ALONG SAID NORTH AND SOUTH LINES SOUTH 89°52'26" EAST 323.53 FEET TO THE EASTERLY LINE OF SAID TRACT OF LAND, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31;

THENCE ALONG SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°10'31" EAST 399.80 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08" TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 374,010 SQUARE FEET, OR 8.59 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 10, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 10 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 4

FILE NO.	21002209 CC FLG 10
DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	42,431	0.97	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,814	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	37,154	0.85	UTILITIES, OPEN SPACE	METRO DISTRICT
D	2,496	0.06	UTILITIES, OPEN SPACE	METRO DISTRICT
E	8,894	0.20	UTILITIES, OPEN SPACE	METRO DISTRICT
	92,728	2.12		
LOTS (34)	211,090	4.85		
RIGHT-OF-WAY	60,754	1.39		
TOTAL	374,010	8.59		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

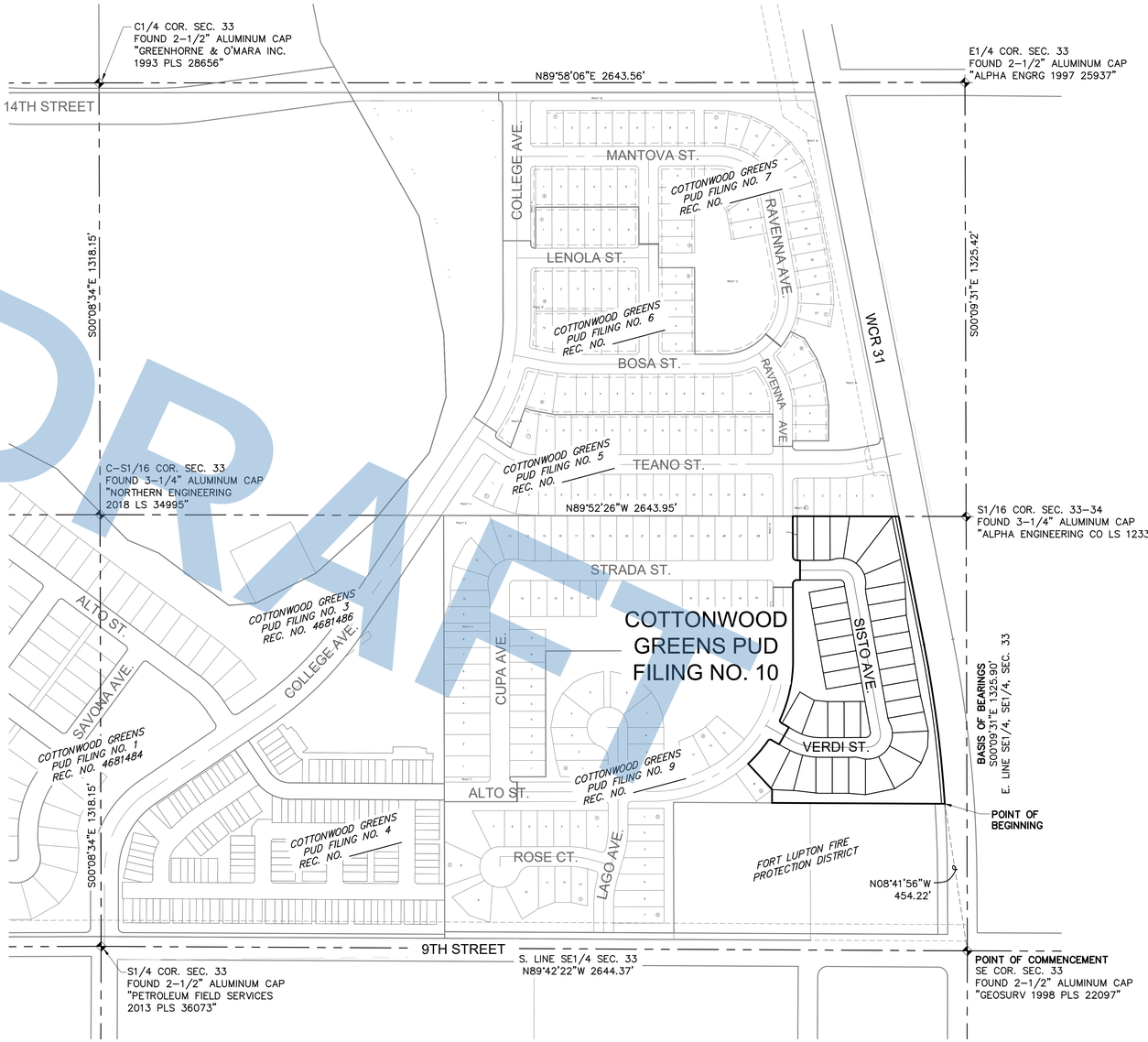
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
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PROFESSIONAL LAND SURVEYOR

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LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 4

FILE NO.	21002209 CG FIG 10
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

K:\21002209\SWD\Survey\FIG 10\21002209_CG FIG 10 FINAL PLAT.dwg, SHT 2, 2/2/2022 8:33:19 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

0' 50' 100' 150'
SCALE: 1" = 50'

- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S42°57'02"E	5.02'
L2	N29°48'00"E	30.00'
L3	S60°12'00"E	2.84'
L4	N29°48'00"E	30.00'
L5	S83°30'10"E	8.88'
L6	S89°52'51"W	15.07'
L7	S89°52'51"W	13.77'
L8	N9°59'24"W	6.51'
L9	N89°52'51"E	1.66'
L10	N89°52'26"W	13.66'
L11	N89°52'26"W	10.20'
L12	N89°52'26"W	10.20'
L13	S89°52'51"W	15.03'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	3°08'57"	194.99'	10.72'
C2	7°05'22"	134.59'	16.65'
C3	99°52'15"	15.00'	26.15'
C4	80°07'45"	15.00'	20.98'
C5	16°02'46"	78.00'	21.84'
C6	11°18'17"	76.00'	15.00'
C7	7°14'33"	78.00'	9.86'
C8	8°48'13"	78.00'	11.98'
C9	22°03'43"	76.00'	29.26'
C10	7°21'55"	78.00'	10.03'
C11	8°40'51"	78.00'	11.82'
C12	3°52'00"	78.00'	5.26'
C13	12°10'46"	78.00'	16.58'
C14	16°02'46"	78.00'	21.84'
C15	16°02'46"	78.00'	21.84'
C16	16°02'46"	78.00'	21.84'
C17	29°30'16"	134.59'	69.31'
C18	2°16'51"	194.99'	7.76'
C19	29°34'11"	194.99'	100.63'

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MICHAEL LLOYD PONTIOUS
38304
PROFESSIONAL LAND SURVEYOR

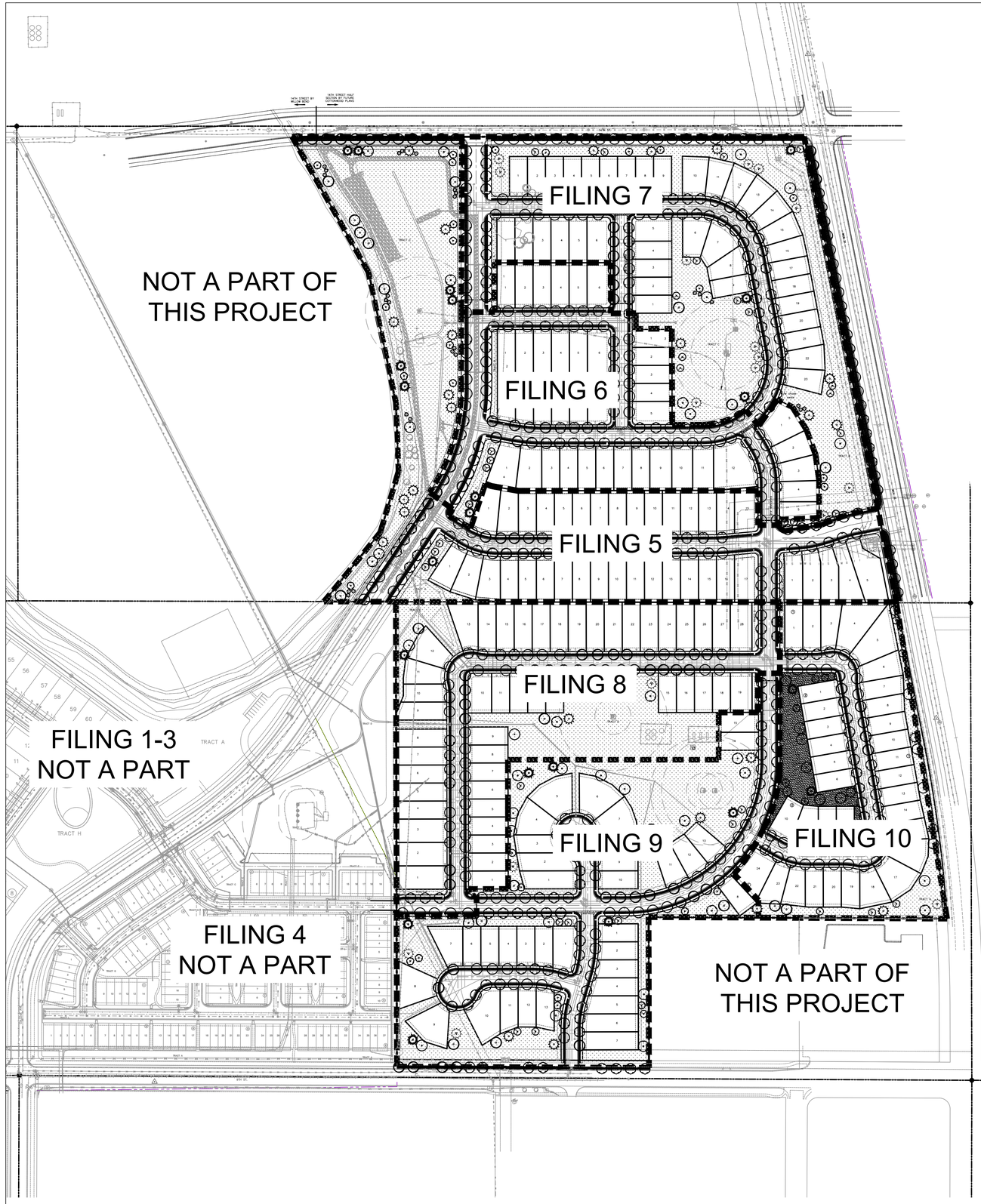
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LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
3
OF 3

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DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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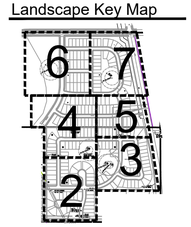
OVERALL PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	96	Celtis occidentalis Western Hackberry	2.0" cal. BB	60`	40`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	88	Gleditsia triacanthos `Skyline` Skyline Honey Locust	2.0" cal. BB	50`	30`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	98	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree	2.0" cal. BB	60`	40`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	21	Populus deltoides monilifera Plains Cottonwood	2.0" cal. BB	80`	50`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	26	Populus x acuminata Lanceleaf Cottonwood	2.0" cal. BB	60`	40`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	92	Quercus buckleyi Texas Red Oak	2.0" cal. BB	40`	30`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	90	Quercus macrocarpa Burr Oak	2.0" cal. BB	80`	70`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	89	Tilia americana `Redmond` Redmond American Linden	2.0" cal. BB	50`	40`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	28	Ulmus x `Accolade` Accolade Elm	2.0" cal. BB	60`	40`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	26	Juniperus scopulorum Rocky Mountain Juniper	6`, BB	30`	12`		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	21	Picea pungens Colorado Spruce	6`, BB	50`	30`		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	30	Pinus ponderosa Ponderosa Pine	6`, BB	80`	40`		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	20	Pinus strobiformis Southwestern White Pine	6`, BB	50`	30`		FULL SPECIMEN, EVENLY AND WELL BRANCHED
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH		REMARKS
	24	Acer glabrum Rocky Mountain Maple	1.5" cal. BB	20`	15`		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	9	Amelanchier x grandiflora `Autumn Brilliance` `Autumn Brilliance` Serviceberry	1.5" cal. BB	25`	20`		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	11	Malus x `Spring Snow` Spring Snow Crab Apple	1.5" cal. BB	25`	20`		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	29	Pyrus calleryana `Chanticleer` Chanticleer Pear	1.5" cal. BB	35`	25`		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE				
	189,383 sf	DURA-TURF SOD	sod				IRRIGATED TURF OR APPROVED EQUAL
	931,387 sf	NATIVE GRASS	seed				NON-IRRIGATED NATIVE FOOTHILLS GRASS MIX - ARKANSAS SEED MIX OR APPROVED EQUAL

0 150' 225' 300'

SCALE 1" = 150'-0"

Landscape Key Map



Sheet Index:

OVERALL LANDSCAPE & PLANT SCHEDULE	1
LANDSCAPE PLAN	2
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LANDSCAPE PLAN	5
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TB GROUP
landscape architecture | planning | illustration

444 Mountain Ave.
Berthoud,CO 80513

TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

FINAL PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

ARBOR CAPITAL PARTNERS LLC
4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

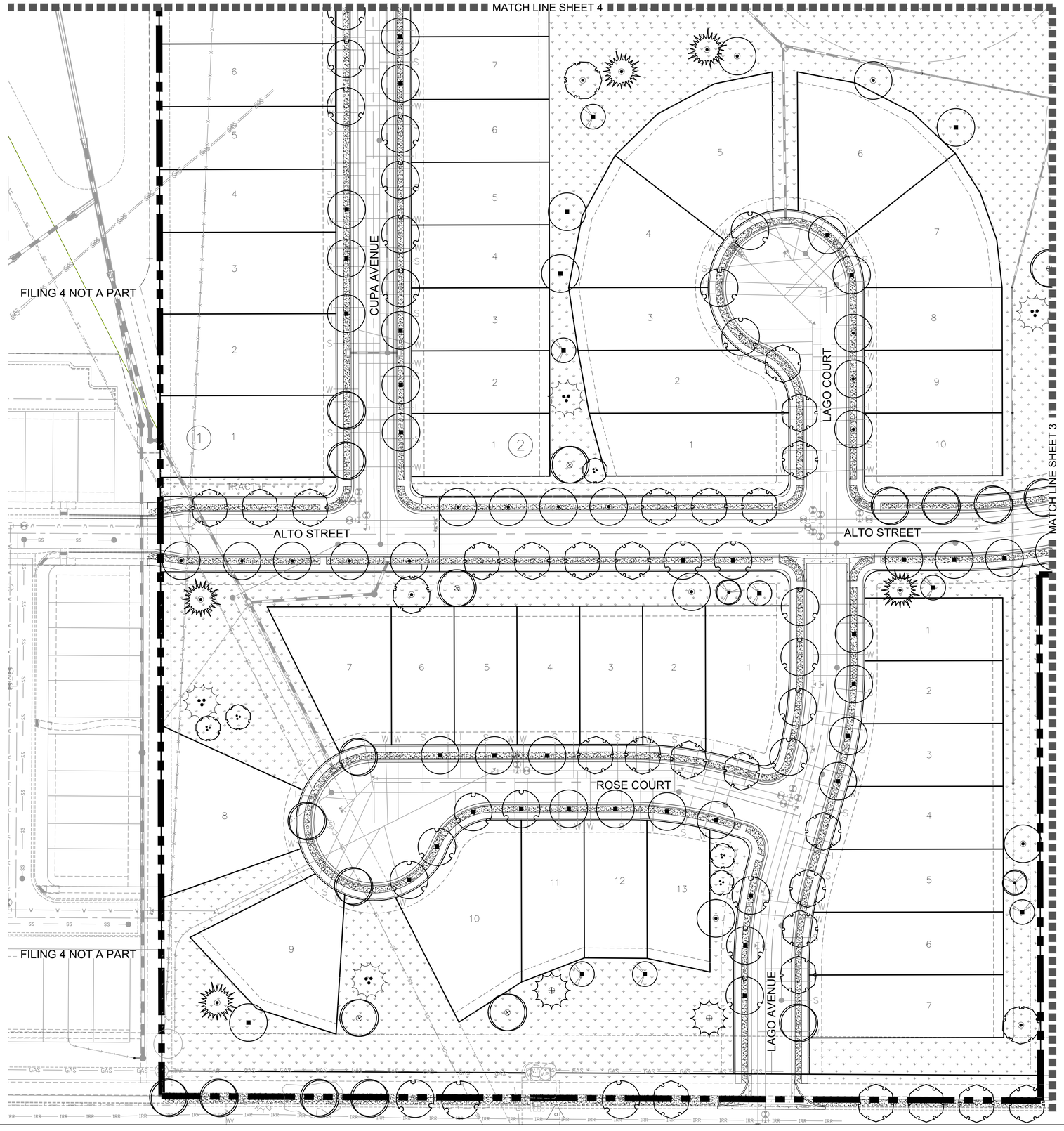
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Overall Landscape & Plant Schedule

SHEET INFORMATION

Sheet Number: 1

Of: 8



PLANT SCHEDULE

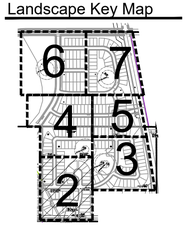
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GROUND COVERS	QTY	BOTANICAL / COMMON NAME
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	931,387 sf	NATIVE GRASS

NORTH

0 40' 60' 80'

SCALE 1" = 40'-0"

Landscape Key Map



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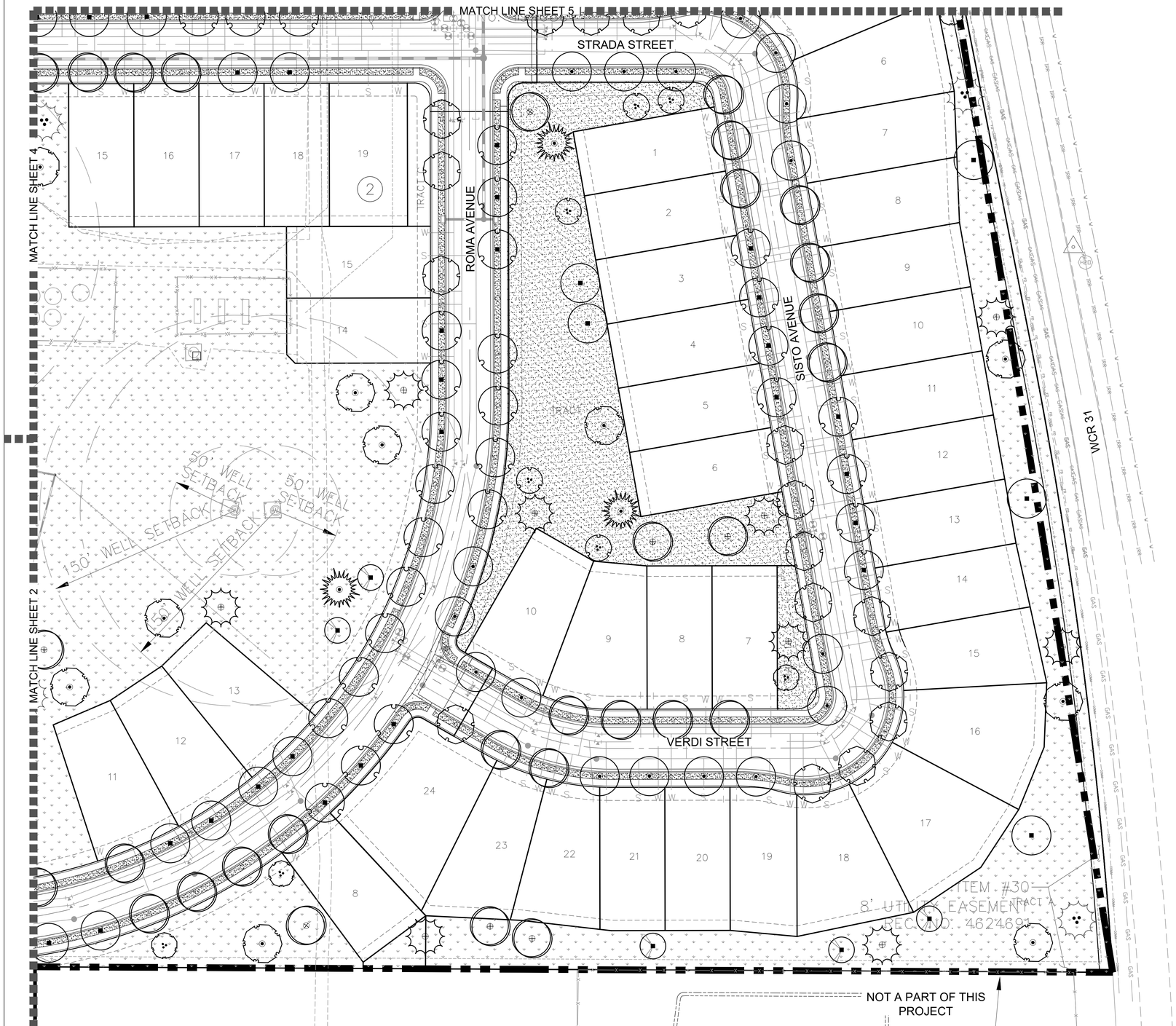
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LANDSCAPE PLAN

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PLANT SCHEDULE

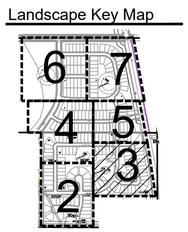
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SCALE 1" = 40'-0"

Landscape Key Map



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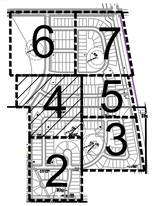
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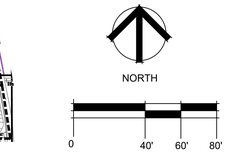
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Landscape Key Map





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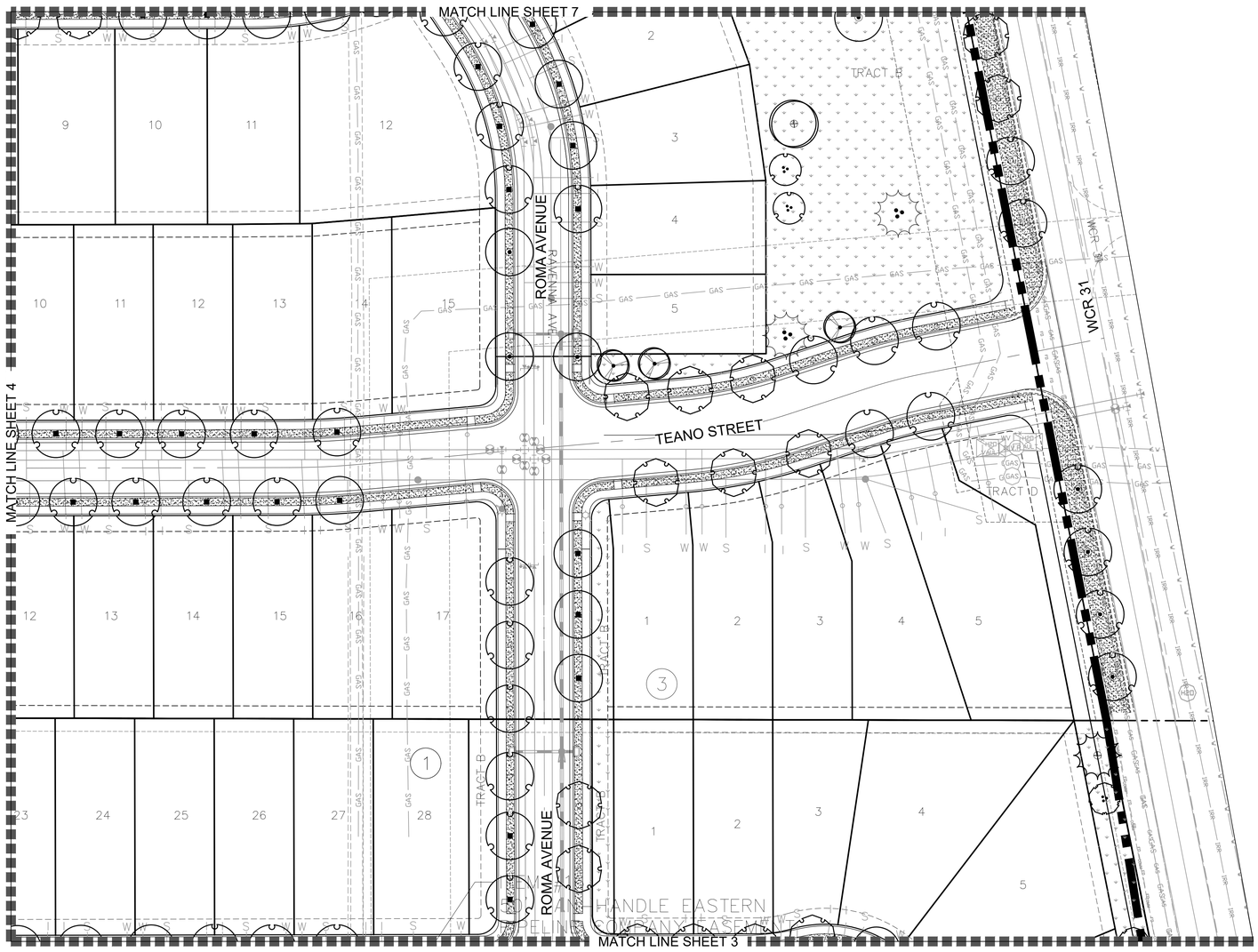
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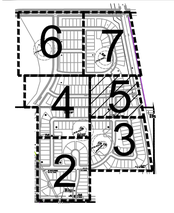
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Landscape Key Map



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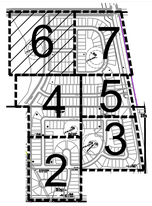
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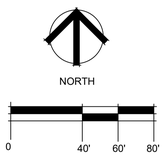
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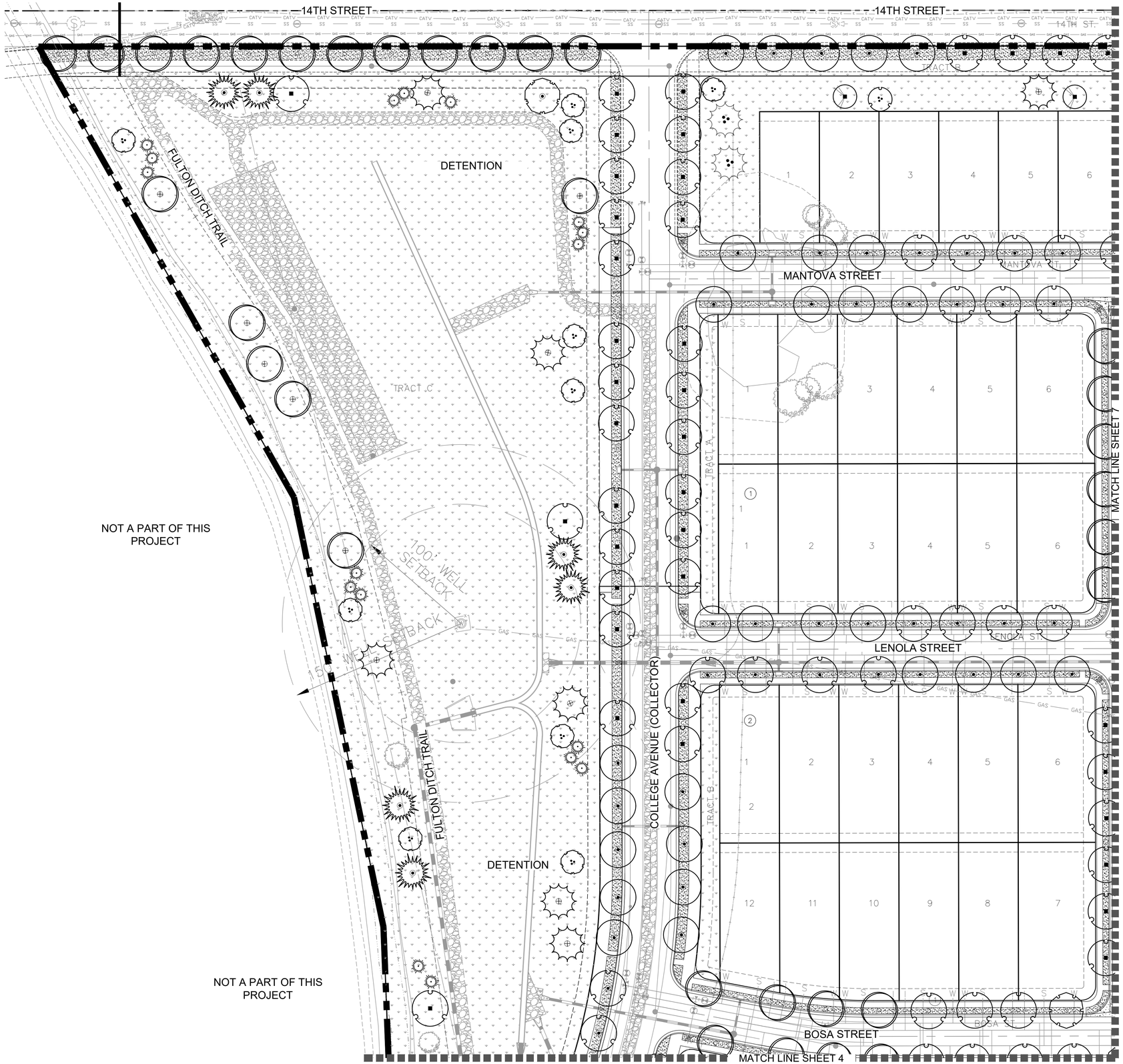




SCALE 1" = 40'-0"

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NOT A PART OF THIS PROJECT

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SEAL

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COTTONWOOD GREENS

FINAL PLAT

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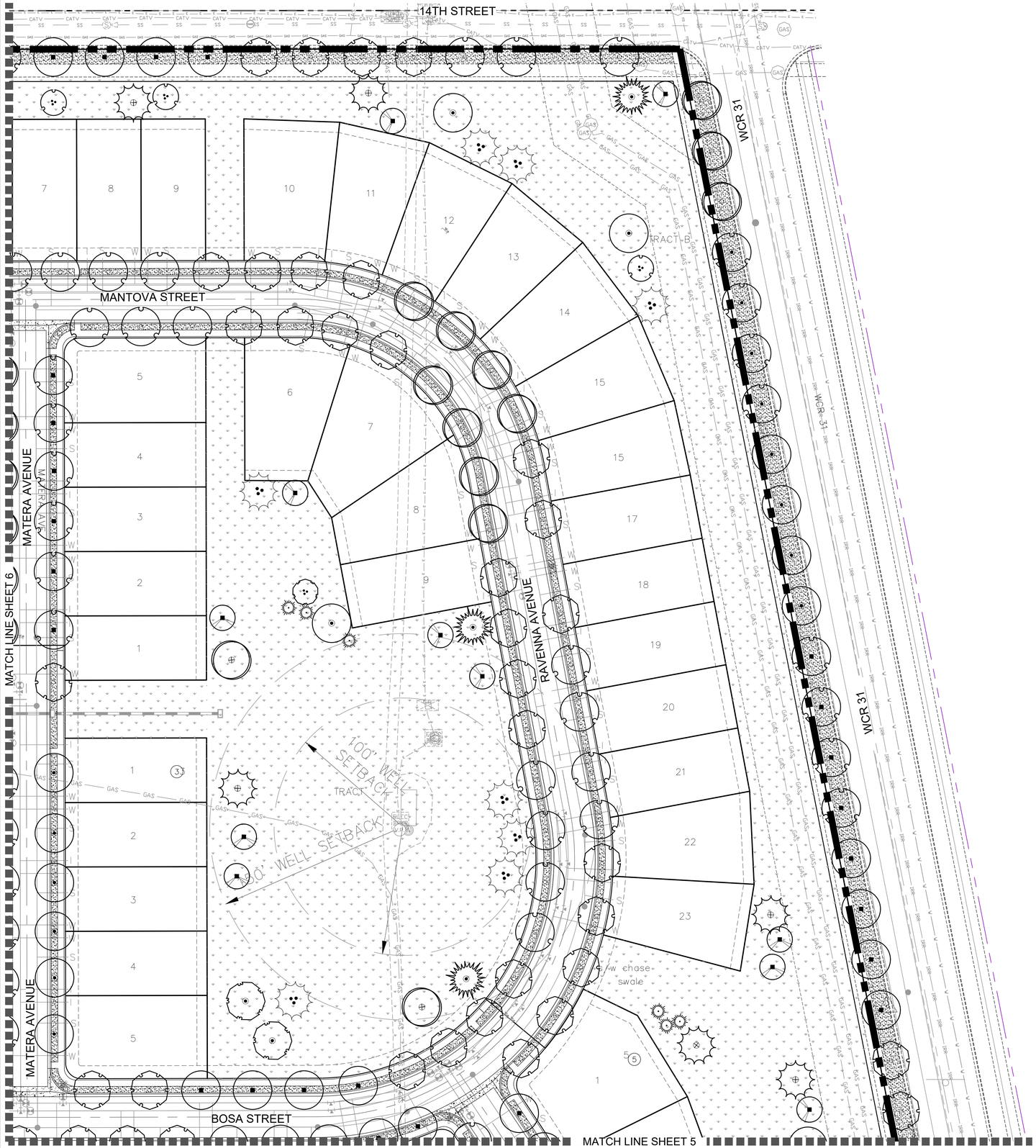
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LANDSCAPE PLAN

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PLANT SCHEDULE

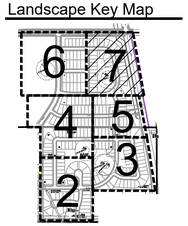
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Of: 8

Landscape Notes

1. LANDSCAPE AREAS SHALL BE MAINTAINED, INCLUDING MOWING, WATERING AND FERTILIZING BY CONTRACTOR, UP TO FINAL ACCEPTANCE. AT SUCH TIME OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE. LANDSCAPE AND IRRIGATION WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE.
2. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
5. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.1 - NO TREES OR SHRUBS SHALL BE PLANTED WITHIN 10' FROM WATER AND SEWER LINES, 4' FROM GAS, TELEPHONE AND ELECTRIC UTILITY LINES.
6. NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, POTABLE WATER, SANITARY SEWER, STORM SEWER, OR NON-POTABLE IRRIGATION MAINS.
7. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
8. TREES SHALL BE LIMBED TO A HEIGHT OF NOT LESS THAN EIGHT (8) FEET ABOVE ANY PUBLIC STREET OR SIDEWALK. SHRUBS AND OTHER PLANT MATERIALS SHALL BE MAINTAINED AT A HEIGHT OF NOT MORE THAN THIRTY (30) INCHES, AND SAID MAINTENANCE SHALL BE CONDUCTED IN PERPETUITY.
9. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
10. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
11. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, AND VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
12. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES.
13. PRIOR TO FINE GRADING, SOD AREAS AND PLANTING BEDS SHALL BE THOROUGHLY LOOSENED AND TILLED TO A 6" DEPTH. REMOVE ALL UNSUITABLE TOPSOIL, INCLUDING ALL ROCKS OR OTHER MATERIAL LARGER THAN 1 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS. AFTER THAT TIME ORGANIC AMENDMENTS SHALL THEN BE THOROUGHLY TILLED AND INCORPORATED TO A MINIMUM 6" DEPTH IN THESE AREAS AT THE MINIMUM OF RATE OF 3 CU. YDS. / 1,000 SQ.FT.
14. UNIFORMLY COMPACT AND FINE GRADE THESE SOD / GRASS AREAS AND PLANTING BEDS TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. CUT OUT SOFT SPOTS, FILL IN LOW SPOTS AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED GRADE TOLERANCES.
15. ONCE COMPACTED AND FINE GRADED, ALL ROCKS, DEBRIS, WASTE MATERIAL AND VEGETATION MATERIAL LARGER THAN 1/2" WILL BE RAKED FROM THE SURFACE AND REMOVED FROM SITE.
16. SOD TO BE 100% COLORADO GROWN DURA-TURF TALL FESCUE BLEND SPECIFICALLY GROWN FOR LOW WATER LAWN APPLICATIONS WITH MINIMUM THREE (3) IMPROVED VARIETIES, HAVING A HEALTHY VIGOROUS ROOT SYSTEM. ONCE TURF IS LAID IT SHALL BE PROPERLY ROLLED, COMPACTED AND PUSHED TOGETHER TO ELIMINATE ANY GAPS BETWEEN ROLL EDGES. APPLY FERTILIZER IN THESE AREAS PER SOD FARM'S RECOMMENDATIONS.
17. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
18. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
19. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
20. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
21. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
22. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH SHREDDED CEDAR MULCH OR NATURAL COLOR AND/OR WASHED SMOOTH RIVER ROCK. A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL SHRUB BEDS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.
23. EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK COBBLE AND CRUSHER FINES SHALL BE 14 GA HEAVY DUTY STEEL EDGER MIN. ¼" x 4" WITH ROLLED TOP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT SOD.

General Notes:

1. ALL SIGNS SHALL BE REQUIRED TO APPLY FOR A SIGN PERMIT.
2. PROPOSED GRADES SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
3. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
4. SOILS DISTURBED ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED EQUIVALENT TO THAT CONDITION PRIOR TO START OF WORK.
5. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
6. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
7. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF LOVELAND IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
8. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.

Irrigation Notes

1. IRRIGATION CONTRACTOR SHALL VERIFY AVAILABLE P.S.I. AND GPM. THIS SYSTEM SHALL THEN BE VERIFIED TO MEET THE AVAILABLE P.S.I. AND GPM AND THE PROPOSED IRRIGATION SYSTEM. IF NECESSARY CONTACT THE WATER DEPARTMENT PRIOR TO BEGINNING DESIGN TO OBTAIN AVAILABLE PRESSURES.
2. ALL INDICATED SOD GRASS AREAS ARE TO BE IRRIGATED BY A PERMANENT UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. TURF AREAS LESS THAN 25 FEET IN WIDTH ARE TO BE IRRIGATED WITH POP-UP SPRAY HEADS, AND AREAS GREATER THAN 25 FEET SHALL USE A ROTOR POP-UP SPRAY SYSTEM. ALL IRRIGATION SYSTEMS SHALL BE DESIGNED TO MINIMIZE OVERSPRAY.
3. ALL TREES, SHRUBS AND PERENNIALS OUTSIDE OF IRRIGATED SOD AREAS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM. IRRIGATION SYSTEMS SHALL BE DESIGNED TO AVOID OVERSPRAY ONTO NON-PLANTED AND IMPERVIOUS SURFACES. IRRIGATION SYSTEMS SHALL BE MAINTAINED IN GOOD WORKING ORDER AND CHECKED TO ENSURE THAT OVERSPRAY DOES NOT OCCUR.
4. FINAL LOCATION OF IRRIGATION HEADS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. HEAD LOCATION SHALL BE COORDINATED IN THE FIELD WITH EXISTING SITE CONDITIONS AND PLANT MATERIAL.
5. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
6. COORDINATE ALL IRRIGATION WORK WITH EXISTING UTILITIES AND RESPECTIVE TRADES.
7. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

Tree Protection Notes

1. HEAVY EQUIPMENT SHOULD NOT BE ALLOWED TO COMPACT OVER THE SOIL OVER THE ROOT ZONE OF PROTECTED EXISTING TREES.
2. AVOID CUTTING SURFACE ROOTS WHEREVER POSSIBLE. SIDEWALKS AND PAVING LEVELS SHOULD BE CONTOURED SUFFICIENTLY TO AVOID DAMAGE.
3. ROOT CUTS FROM EXCAVATION SHOULD BE DONE RAPIDLY. SMOOTH FLUSH CUTS SHOULD BE MADE. BACKFILL BEFORE THE ROOTS HAVE A CHANCE TO DRY OUT AND WATER THE TREE IMMEDIATELY.
4. PRIOR TO CONSTRUCTION, ALL PROTECTED TREES SHALL HAVE ORANGE PROTECTION BARRIER FENCING ERECTED, WHICH AS A MINIMUM ARE SUPPORTED BY I" X I" OR SIMILAR STURDY STOCK, FOR SHIELDING OF PROTECTED TREES, NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE HALF (/ /2) OF THE DRIP LINE, WHICH EVER IS GREATER. WITHIN THIS PROTECTION ZONE THERE SHALL BE NO MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, FILL OR CUT UNLESS APPROVED BY THE CITY FORESTER.
5. WITHIN THE DRIP LINE OF ANY PROTECTED EXISTING TREE, THERE SHALL BE NO CUT OR FILL OVER A FOUR INCH DEPTH UNLESS A QUALIFIED ARBORIST OR FORESTER HAS EVALUATED AND APPROVED THE DISTURBANCE.
6. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE OR DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE, WITHIN THE DRIP LINE OF ANY PROTECTED TREE OR GROUP OF TREES.
7. NO DAMAGING ATTACHMENT, WIRES, SIGNS OR PERMITS MAY BE FASTENED TO ANY PROTECTED TREE.

Native Grass Seed Mix

NATIVE GRASS - NATIVE PRAIRIE MEADOW GRASS MIX:

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
2. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

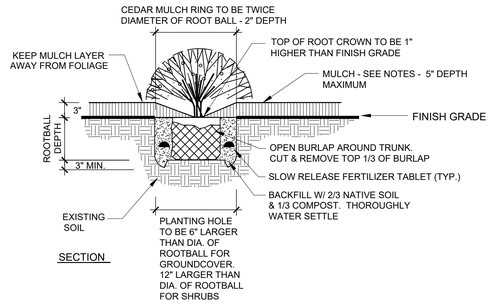
NON-IRRIGATED FOOTHILLS MIX

COMMON NAME	%
ANNUAL RYEGRASS	20%
SLENDER WHEATGRASS	15%
CRESTED WHEATGRASS	12%
MOUNTAIN BROME	10%
HARD FESCUE	10%
CANADA BLUEGRASS	10%
SIDEOATS GRAMA	6%
BIG BLUESTEM	5%
BLUE GRAMA (COATED)	5%
SAND DROPSEED	1%

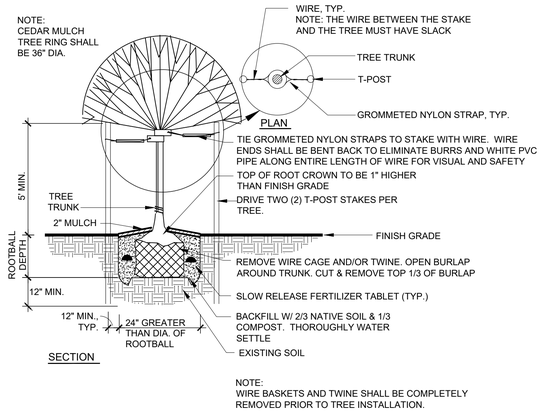
3. DRILLED APPLICATION RATE: 25.0 LBS (PLS) PER ACRE (0.57 LBS / 1000 SF
4. NATIVE SEED AREAS: ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED FOR THE ESTABLISHMENT AND MAINTENANCE FOR THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

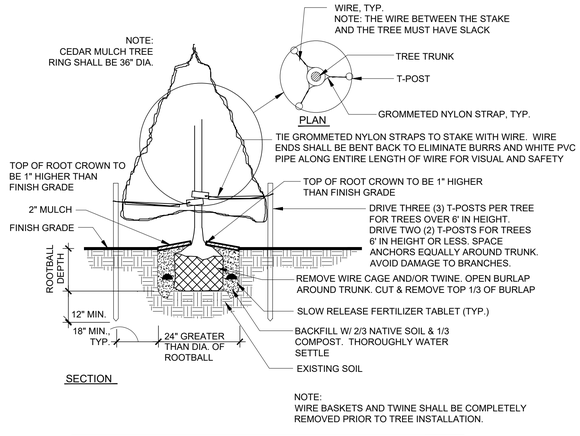
1. IMMEDIATELY FOLLOWING THE RAKING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
2. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAS ¼ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
4. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
5. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.



GROUND COVER & SHRUB PLANTING DETAIL



DECIDUOUS TREE PLANTING DETAIL



CONIFER TREE PLANTING DETAIL

TB GROUP
landscape architecture | planning | illustration
444 Mountain Ave.
Berthoud, CO 80513
TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

COTTONWOOD GREENS

FINAL PLAT

PROJECT NO:
PLAN NO:

FORT LUPTON, COLORADO

PREPARED FOR

ARBOR CAPITAL PARTNERS LLC
4040 MACARTHUR BLVD.,
STE. 250
NEWPORT BEACH, CA 92660

REVISIONS DATE

DATE

January 28, 2022

SHEET TITLE

Landscape Notes & Details

SHEET INFORMATION

Sheet Number: 8

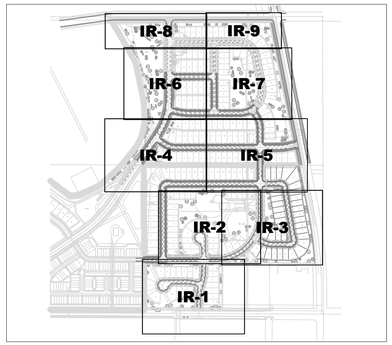
Of: 8

Irrigation Schedule Controller A

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Peak Season Applied Depth (Inches)	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
A1	Turf	0.31	59.1	2,188	2.60	7
A2	Turf	0.31	65	2,398	2.61	7
A3	Turf	0.31	56.5	2,175	2.50	7
A4	Turf	0.31	59.5	2,234	2.56	7
A5	Turf	0.31	37.2	1,465	2.44	8
A6	Turf	0.31	75.3	2,758	2.63	7
A7	Turf	0.31	54.5	1,791	2.93	6
A8	Turf	0.31	64.9	2,344	2.66	7
A9	Turf	0.31	68.4	2,467	2.67	7
A10	Turf	0.31	30.3	1,042	2.80	7
A11	Turf	0.31	43.7	2,604	1.62	12
A12	Turf	0.31	49.6	2,966	1.61	12
A13	Trees/Shrubs	NA	0.5	NA	NA	20*
A14	Trees/Shrubs	NA	0.5	NA	NA	20*
A15	Trees/Shrubs	NA	0.5	NA	NA	20*
A16	Trees/Shrubs	NA	0.5	NA	NA	20*
A17	Trees/Shrubs	NA	4	NA	NA	20*
A18	Trees/Shrubs	NA	6.4	NA	NA	20*
A19	Native Seed	0.25	50	11,001	0.44	34
A20	Native Seed	0.25	50.8	10,781	0.45	33
A21	Native Seed	0.25	46.3	4,195	1.06	14
A22	Native Seed	0.25	44.4	3,918	1.09	14
A23	Native Seed	0.25	38.8	15,979	0.23	64
A24	Native Seed	0.25	69	15,265	0.44	34
A25	Native Seed	0.25	69	14,060	0.47	32
A26	Native Seed	0.25	69	16,077	0.41	36
A27	Native Seed	0.25	39	17,358	0.22	69
A28	Native Seed	0.25	55.2	13,297	0.40	38
A29	Native Seed	0.25	69	16,340	0.41	37
A30	Native Seed	0.25	52	23,144	0.22	69
A31	Native Seed	0.25	69	16,424	0.40	37
A32	Native Seed	0.25	52	23,144	0.22	69
A33	Native Seed	0.25	69	16,498	0.40	37
A34	Native Seed	0.25	69	16,344	0.41	37
A35	Native Seed	0.25	39	17,358	0.22	69
A36	Native Seed	0.25	39	17,358	0.22	69
A37	Native Seed	0.25	55.2	11,360	0.47	32
A38	Native Seed	0.25	39	17,358	0.22	69
A39	Native Seed	0.25	69	14,242	0.47	32

* DRIP ZONES TO RUN 20 MINUTES DAILY FOR ESTABLISHMENT ONLY. AFTER PLANTS ARE ESTABLISHED, SCHEDULE DRIP ZONES TO RUN 45 MINUTES, TWICE A WEEK.



KEYMAP

Irrigation Schedule Controller B

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Peak Season Applied Depth (Inches)	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
B1	Turf	0.31	56.4	3,893	1.39	13
B2	Turf	0.31	79.1	4,782	1.59	12
B3	Turf	0.31	77.9	4,718	1.59	12
B4	Turf	0.31	69.6	4,236	1.58	12
B5	Turf	0.31	76.7	4,639	1.59	12
B6	Turf	0.31	2.2	168	1.26	15
B7	Turf	0.31	79.1	4,780	1.59	12
B8	Turf	0.31	4.6	236	1.87	10
B9	Turf	0.31	33.7	1,742	1.86	10
B10	Turf	0.31	32.4	1,672	1.87	10
B11	Turf	0.31	61.5	3,266	1.81	10
B12	Turf	0.31	14.1	781	1.74	11
B13	Turf	0.31	29.5	1,729	1.64	11
B14	Turf	0.31	25.9	1,474	1.69	11
B15	Turf	0.31	26.7	1,450	1.77	10
B16	Turf	0.31	18.9	992	1.83	10
B17	Turf	0.31	16.4	3,643	0.43	43
B18	Turf	0.31	65	5,562	1.12	17
B19	Turf	0.31	11.6	624	1.79	10
B20	Turf	0.31	66.6	6,063	1.06	18
B21	Turf	0.31	54.2	8,652	0.60	31
B22	Turf	0.31	40.7	2,172	1.80	10
B23	Turf	0.31	66.6	6,390	1.00	19
B24	Turf	0.31	11	2,814	0.38	49
B25	Turf	0.31	66.6	5,320	1.20	15
B26	Turf	0.31	13.2	2,586	0.49	38
B27	Turf	0.31	19.1	1,141	1.61	12
B28	Turf	0.31	28.6	1,469	1.87	10
B29	Turf	0.31	26.4	1,806	1.41	13
B30	Turf	0.31	14.3	958	1.44	13
B31	Turf	0.31	47.3	2,459	1.85	10
B32	Turf	0.31	11.6	625	1.79	10
B33	Turf	0.31	18.9	964	1.89	10
B34	Turf	0.31	26.4	1,327	1.92	10
B35	Turf	0.31	21.3	1,068	1.92	10
B36	Turf	0.31	5.4	492	1.06	18
B37	Turf	0.31	23.5	1,227	1.84	10
B38	Turf	0.31	4.6	341	1.30	14
B39	Turf	0.31	47.9	2,593	1.78	10
B40	Trees/Shrubs	NA	2.4	NA	NA	20*
B41	Trees/Shrubs	NA	2	NA	NA	20*
B42	Trees/Shrubs	NA	2.7	NA	NA	20*
B43	Trees/Shrubs	NA	3.4	NA	NA	20*
B44	Trees/Shrubs	NA	0.4	NA	NA	20*
B45	Trees/Shrubs	NA	1.5	NA	NA	20*
B46	Trees/Shrubs	NA	2.4	NA	NA	20*
B47	Trees/Shrubs	NA	1.6	NA	NA	20*
B48	Trees/Shrubs	NA	0.4	NA	NA	20*
B49	Trees/Shrubs	NA	1.5	NA	NA	20*
B50	Trees/Shrubs	NA	2	NA	NA	20*
B51	Trees/Shrubs	NA	1.7	NA	NA	20*
B52	Trees/Shrubs	NA	1.3	NA	NA	20*
B53	Trees/Shrubs	NA	1.3	NA	NA	20*

* DRIP ZONES TO RUN 20 MINUTES DAILY FOR ESTABLISHMENT ONLY. AFTER PLANTS ARE ESTABLISHED, SCHEDULE DRIP ZONES TO RUN 45 MINUTES, TWICE A WEEK.

Irrigation Schedule Controller B

Cottonwood Greens Filing 5-10, Fort Lupton CO

Controller Station	Plant Type	Season Applied	Flow (GPM)	Area (Sq.Ft.)	Precip (In/Hr)	Daily Runtime (min)
B54	Native Seed	0.25	27.4	5,724	0.46	33
B55	Native Seed	0.25	41.4	5,666	0.70	21
B56	Native Seed	0.25	55.2	18,182	0.29	51
B57	Native Seed	0.25	55.2	9,989	0.53	28
B58	Native Seed	0.25	69	10,848	0.61	25
B59	Native Seed	0.25	68.6	24,668	0.27	56
B60	Native Seed	0.25	69	11,249	0.59	25
B61	Native Seed	0.25	55.2	11,847	0.45	33
B62	Native Seed	0.25	17.7	5,247	0.32	46
B63	Native Seed	0.25	41.9	18,145	0.22	67
B64	Native Seed	0.25	69	10,477	0.63	24
B65	Native Seed	0.25	69	22,401	0.30	51
B66	Native Seed	0.25	69	10,130	0.66	23
B67	Native Seed	0.25	69	13,642	0.49	31
B68	Native Seed	0.25	61.8	11,015	0.54	28
B69	Native Seed	0.25	55.2	17,621	0.30	50
B70	Native Seed	0.25	22.9	5,414	0.41	37
B71	Native Seed	0.25	69	11,670	0.57	26
B72	Native Seed	0.25	48.1	3,875	1.19	13
B73	Native Seed	0.25	55.2	7,698	0.69	22
B74	Native Seed	0.25	41.4	6,693	0.60	25
B75	Native Seed	0.25	69	21,302	0.31	48
B76	Native Seed	0.25	69	21,302	0.31	48
B77	Native Seed	0.25	69	10,730	0.62	24
B78	Native Seed	0.25	69	21,301	0.31	48
B79	Native Seed	0.25	55.2	8,695	0.61	25
B80	Native Seed	0.25	69	21,302	0.31	48
B81	Native Seed	0.25	69	21,302	0.31	48
B82	Native Seed	0.25	69	21,302	0.31	48
B83	Native Seed	0.25	55.2	8,017	0.66	23
B84	Native Seed	0.25	69	12,371	0.54	28
B85	Native Seed	0.25	5.2	2,595	0.19	78
B86	Native Seed	0.25	69	11,063	0.60	25
B87	Native Seed	0.25	22.9	5,359	0.41	36
B88	Native Seed	0.25	69	11,483	0.58	26
B89	Native Seed	0.25	11.8	4,713	0.24	62
B90	Native Seed	0.25	14.8	6,547	0.22	69
B91	Native Seed	0.25	25.9	1,680	1.48	10
B92	Native Seed	0.25	69.1	11,629	0.57	26
B93	Native Seed	0.25	69	10,014	0.66	23
B94	Native Seed	0.25	69	6,636	1.00	15
B95	Native Seed	0.25	69.8	21,024	0.32	47
B96	Native Seed	0.25	12.8	3,314	0.37	40
B97	Native Seed	0.25	70.1	20,441	0.33	45
B98	Native Seed	0.25	24	8,260	0.28	54
B99	Native Seed	0.25	39.8	9,016	0.42	35
B100	Native Seed	0.25	62.7	14,771	0.41	37
B101	Native Seed	0.25	48.6	9,789	0.48	31
B102	Native Seed	0.25	46.2	10,157	0.44	34
B103	Native Seed	0.25	32	7,284	0.42	35
B104	Native Seed	0.25	39.6	9,521	0.40	37
B105	Native Seed	0.25	49.5	11,424	0.42	36
B106	Native Seed	0.25	66	14,275	0.45	34

IRRIGATION LEGEND

- MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
- SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
- DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
- SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
- POINT OF CONNECTION/WINTERIZATION ASSEMBLY
- MASTER VALVE/FLOW SENSOR ASSEMBLY
- ISOLATION GATE VALVE
- QUICK COUPLER: RAINBIRD 5RC
- REMOTE CONTROLE VALVE: RAIN BIRD PESB
- DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
- DRIP FLUSH CAP
- IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI
- CONTROLLER STATION/ID: A1
- FLOW (GPM): 2.2
- NOMINAL VALVE SIZE: 1"

HUNTER-I-20-04-R-MPR 55 PSI
- NOZZLE 25H: 2.2 GPM, 25.0'
- NOZZLE 25Q: 1.1 GPM, 25.0'
- NOZZLE 30F: 6.4 GPM, 30.0'
- NOZZLE 30H: 3.3 GPM, 30.0'
- NOZZLE 30Q: 1.6 GPM, 30.0'
- NOZZLE 35F: 8.4 GPM, 35.0'
- NOZZLE 35H: 4.2 GPM, 35.0'
- NOZZLE 35Q: 2.1 GPM, 35.0'

HUNTER-I-40-04-R 50 PSI
- NOZZLE 10: 10.3 GPM, 49.0'
- NOZZLE 13: 11.1 GPM, 50.0'
- NOZZLE 15: 13.8 GPM, 54.0'
- NOZZLE 15ON: 13.0 GPM, 52.0'
- NOZZLE 8: 8.4 GPM, 45.0'

HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
- NOZZLE 10H: 0.4 GPM, 14.0'
- NOZZLE 10Q: 0.2 GPM, 14.0'
- NOZZLE 20F: 1.5 GPM, 19.0'
- NOZZLE 20H: 0.7 GPM, 19.0'
- NOZZLE 20Q: 0.4 GPM, 20.0'
- NOZZLE 30F: 3.6 GPM, 30.0'
- NOZZLE 30H: 1.8 GPM, 30.0'
- NOZZLE 30Q: 0.9 GPM, 30.0'
- NOZZLE 35H: 2.9 GPM, 35.0'
- NOZZLE 35Q: 1.3 GPM, 35.0'

RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
- NOZZLE 15LCS: 0.5 GPM, 15.0'
- NOZZLE 15RCS: 0.5 GPM, 15.0'
- NOZZLE 15SST: 1.2 GPM, 15.0'
- NOZZLE 9SST: 1.7 GPM, 18.0'

RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
- NOZZLE 10H: 0.9 GPM, 10.0'
- NOZZLE 10Q: 0.5 GPM, 10.0'
- NOZZLE 12F: 2.4 GPM, 12.0'
- NOZZLE 12H: 1.2 GPM, 12.0'
- NOZZLE 12Q: 0.6 GPM, 12.0'
- NOZZLE 8H: 0.6 GPM, 8.0'
- NOZZLE 8Q: 0.3 GPM, 8.0'

NOTES

1. INSTALL SYSTEM TO IRRIGATE NEW LANDSCAPING. SPRINKLERS IRRIGATE SOD AREAS. DRIP WILL IRRIGATE NEW TREE AND SHRUB PLANTINGS IN PLANTING BEDS. TEMPORARY SPRINKLER IRRIGATION IS PROVIDED FOR ESTABLISHMENT OF NATIVE SEED AREAS. WATER SOURCE WILL BE TO IRRIGATION SERVICE LINE AT LOCATION INDICATED.
2. SYSTEM IS DESIGNED FOR A DYNAMIC PRESSURE OF 75 PSI AT 200 GPM. VERIFY DYNAMIC PRESSURE ONSITE BEFORE INSTALLATION OF SYSTEM.
3. CONTROL WILL BE VIA NEW IRRIGATION CONTROLLER PEDESTAL MOUNTED ADJACENT TO THE POINT OF CONNECTION. CONTROL WILL BE VIA TWO WIRE PATH. INSTALL DECODERS AND GROUNDING PER MANUFACTURER'S RECOMMENDATION. INSTALL CONTROL CABLE NOT ADJACENT TO MAINLINE IN CONDUIT.
4. THE ENTIRE INSTALLATION SHALL FULLY COMPLY WITH ALL LOCAL AND STATE LAWS AND ORDINANCES AND WITH ALL THE ESTABLISHED APPLICABLE CODES.
5. UTILITY LOCATES ("CALL BEFORE YOU DIG"): ARRANGE FOR AND COORDINATE WITH GENERAL CONTRACTOR AND LOCAL AUTHORITIES THE LOCATION OF ALL UNDERGROUND UTILITIES. CALL 1-800-849-2476.
6. WARRANTY IRRIGATION SYSTEM FOR ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF WORK.
7. DO NOT PROCEED WITH THE INSTALLATION OF IRRIGATION COMPONENTS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS EXIST, BRING THEM TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
8. MAINLINE SLEEVES HAVE BEEN INSTALLED ACROSS STREETS BY THE GENERAL CONTRACTOR. ALL OTHER SLEEVING WILL BE INSTALLED BY THE IRRIGATION CONTRACTOR. SLEEVES ARE REQUIRED FOR BOTH PIPING AND CONTROL WIRING AT EACH HARDSCAPE CROSSING. SIZE SLEEVES TO BE TWICE THE SIZE OF THE PIPE OR WIRE BUNDLE THAT IS CARRIED IN SAID SLEEVE.
9. MAINLINE PIPE:
   a. USE CLASS 200 SDR 21 NSF APPROVED RIGID PVC PIPE.
   b. USE SOLVENT WELD PIPE.
   c. USE SCHEDULE 40, TYPE 1, PVC SOLVENT WELD FITTINGS. USE PRIMER APPROVED BY THE PIPE MANUFACTURER.
   d. MAINLINE PIPE IS 3" NOMINAL SIZE UNLESS INDICATED OTHERWISE.
   e. CONDUCT A MAINLINE PRESSURE TEST AT AVAILABLE PRESSURE OVER ONE HOUR, ALLOWABLE PRESSURE DROP IS 5 PSI.
   f. MAINLINE PIPE TO BE BURIED WITH 24-INCHES OF COVER.
10. LATERAL PIPE:
   a. USE CLASS 200 SDR 21 NSF APPROVED RIGID PVC PIPE
   b. USE SOLVENT WELD PIPE.
   c. USE SCHEDULE 40, TYPE 1, PVC SOLVENT WELD FITTINGS. USE PRIMER APPROVED BY THE PIPE MANUFACTURER.
   d. MINIMUM LATERAL PIPE SIZE IS 1". SIZE PIPE AS INDICATED. ALL SECTIONS OF PIPE BETWEEN TWO IDENTICAL LABELS ARE THE SIZE OF SAID LABELS.
   e. FLEXIBLE POLYETHYLENE PIPE RATED FOR AT LEAST 100 PSI FOR ALL PIPE 1-1/2" AND SMALLER LATERAL PIPE CAN BE USED. USE PLASTIC TYPE PVC OR NYLON INSERT FITTINGS AND SADDLE TEES.
   f. SPRINKLER LATERAL PIPE TO BE BURIED WITH 14-INCHES OF COVER.
11. DRIP TUBING:
   a. USE U.V. RESISTANT POLYETHYLENE RATED FOR 60 PSI.
   b. USE COMPRESSION FITTINGS PER MANUFACTURER RECOMMENDATION.
   c. DRIP TUBING TO BE BURIED WITH 4-INCHES OF COVER.
12. COMPACT TRENCHES IN 6-INCH LIFTS TO 90% PROCTOR DENSITY. PUDDLING OF TRENCHES IS NOT ALLOWED.
13. ADJUST EACH SPRINKLER TO PROVIDE COMPLETE AND OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ONTO HARDSCAPE.
14. PROVIDE TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVE.
15. FURNISH ACCURATE REPRODUCIBLE "AS-BUILT" DRAWINGS SHOWING FIELD CHANGES IN LAYOUT AND EQUIPMENT INSTALLATION. AS-BUILT DRAWINGS TO BE PLOTTED OUT FULL SCALE ALSO INCLUDE AN ELECTRONIC COPIES IN AUTOCAD AND ADOBE ACROBAT (PDF) FORMAT.
16. CLEAN UP ALL DEBRIS RELATED TO THE JOB, AND LEAVE THE SITE IN A CLEAN TIDY CONDITION.
17. TEST AND DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THE SATISFACTORY OPERATION OF THE SYSTEM.

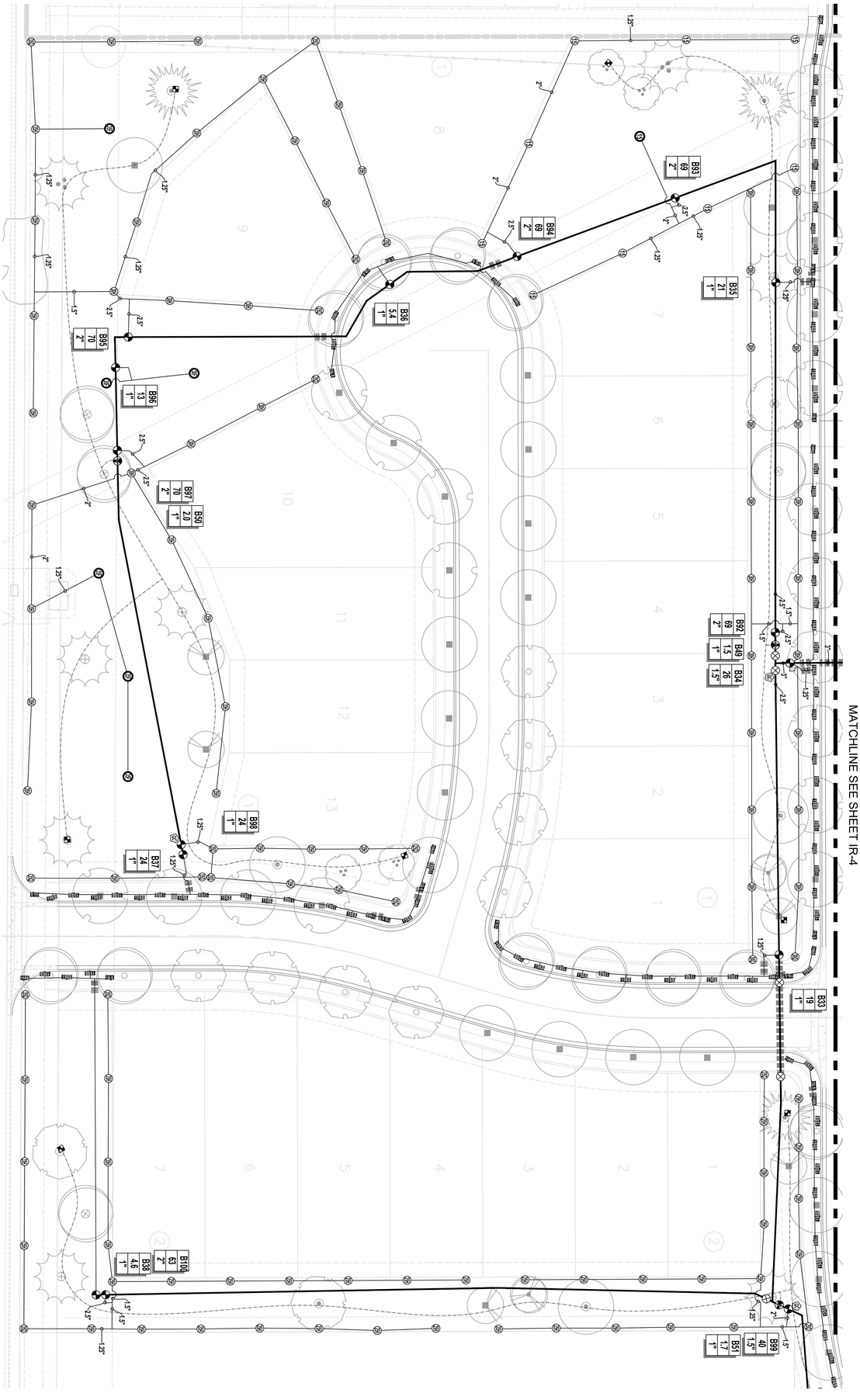
REV	DESCRIPTION OF REVISION	BY	DATE

The Irrigation Engineers
2727 Alan St. • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

DESIGNED: AL
DRAWN: AL
CHECKED: TG
PROJECT MANAGER: TG
DATE: JANUARY 28, 2022

Cottonwood Green PUD No. 5-10 Openspace Irrigation Plan

SHEET
IR-o



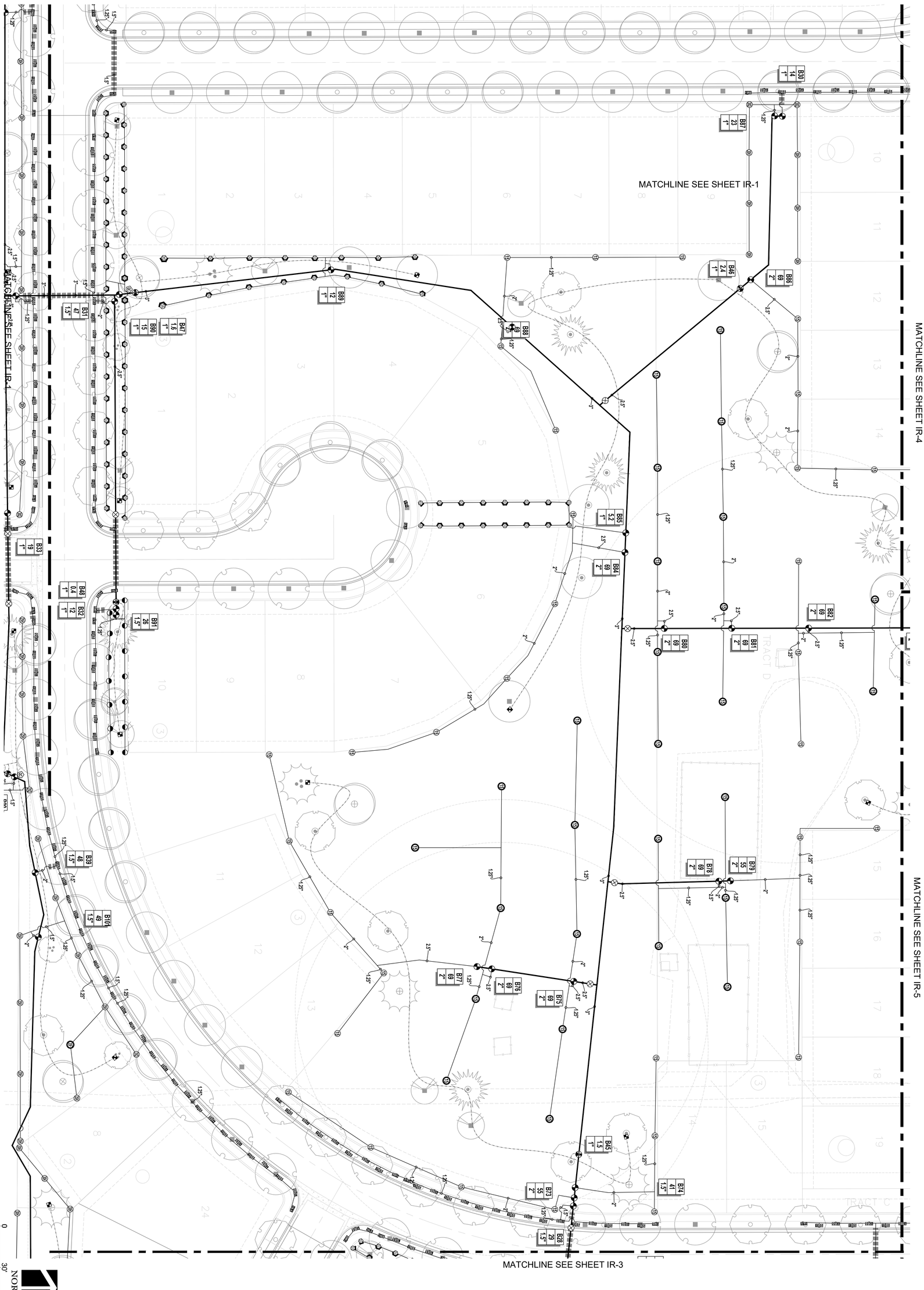
SHEET
IR-1

Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

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SHEET
IR-2

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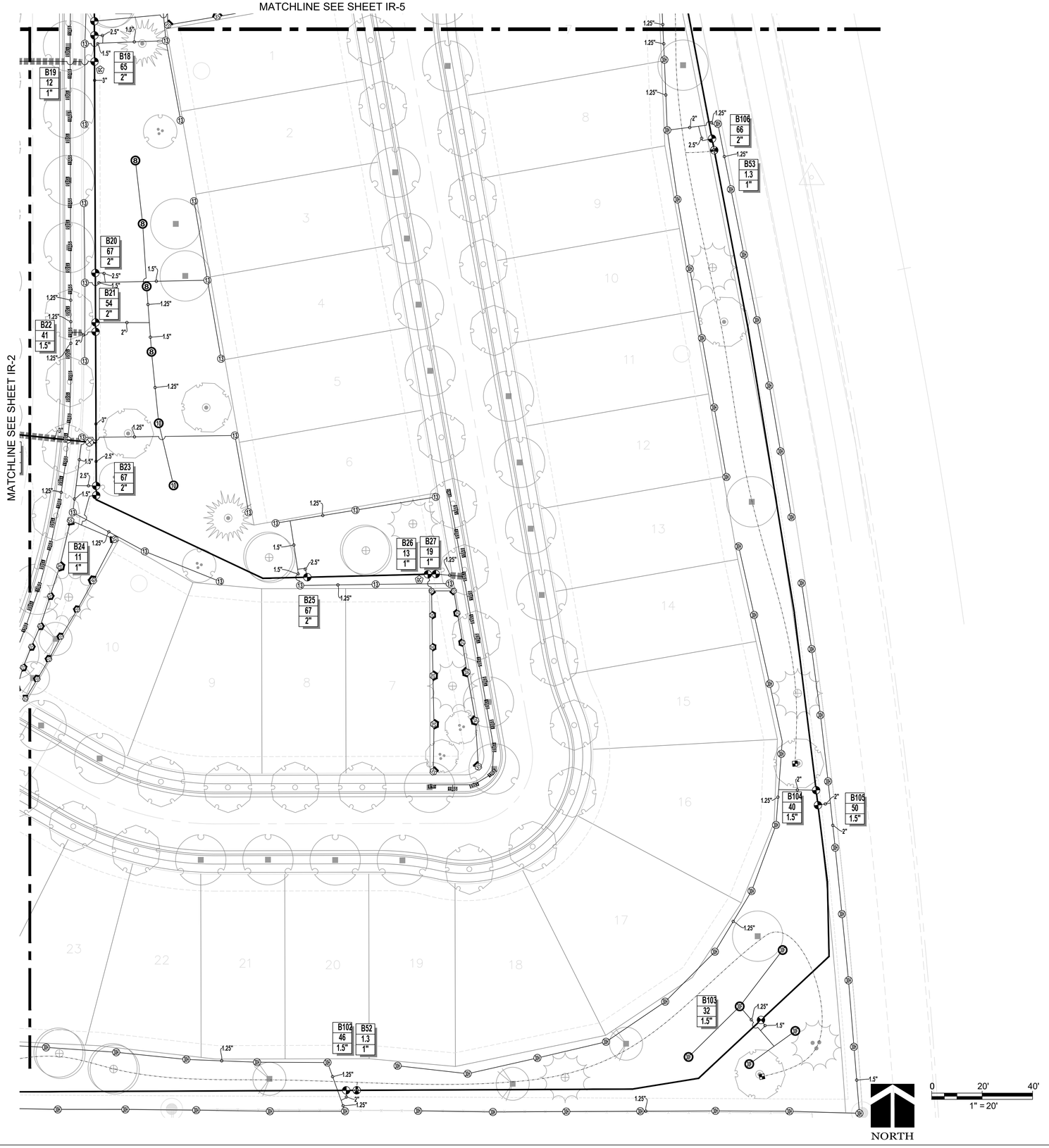
IRRIGATION LEGEND

MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
POINT OF CONNECTION/WINTERIZATION ASSEMBLY
MASTER VALVE/FLOW SENSOR ASSEMBLY
ISOLATION GATE VALVE
QUICK COUPLER: RAINBIRD 5RC
REMOTE CONTROLE VALVE: RAIN BIRD PESB
DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
DRIP FLUSH CAP
IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI

A1 / 2.2 / 1" — CONTROLLER STATION/ID / FLOW (GPM) / NOMINAL VALVE SIZE

HUNTER-I-20-04-R-MPR 55 PSI
NOZZLE 25H: 2.2 GPM, 25.0'
NOZZLE 25Q: 1.1 GPM, 25.0'
NOZZLE 30F: 6.4 GPM, 30.0'
NOZZLE 30H: 3.3 GPM, 30.0'
NOZZLE 30Q: 1.6 GPM, 30.0'
NOZZLE 35F: 8.4 GPM, 35.0'
NOZZLE 35H: 4.2 GPM, 35.0'
NOZZLE 35Q: 2.1 GPM, 35.0'
HUNTER-I-40-04-R 50 PSI
NOZZLE 10: 10.3 GPM, 49.0'
NOZZLE 13: 11.1 GPM, 50.0'
NOZZLE 15: 13.8 GPM, 54.0'
NOZZLE 15ON: 13.0 GPM, 52.0'
NOZZLE 8: 8.4 GPM, 45.0'

HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
NOZZLE 10H: 0.4 GPM, 14.0'
NOZZLE 10Q: 0.2 GPM, 14.0'
NOZZLE 20F: 1.5 GPM, 19.0'
NOZZLE 20H: 0.7 GPM, 19.0'
NOZZLE 20Q: 0.4 GPM, 20.0'
NOZZLE 30F: 3.6 GPM, 30.0'
NOZZLE 30H: 1.8 GPM, 30.0'
NOZZLE 30Q: 0.9 GPM, 30.0'
NOZZLE 35H: 2.9 GPM, 35.0'
NOZZLE 35Q: 1.3 GPM, 35.0'
RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
NOZZLE 15LCS: 0.5 GPM, 15.0'
NOZZLE 15RCS: 0.5 GPM, 15.0'
NOZZLE 15SST: 1.2 GPM, 15.0'
NOZZLE 9SST: 1.7 GPM, 18.0'
RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
NOZZLE 10H: 0.9 GPM, 10.0'
NOZZLE 10Q: 0.5 GPM, 10.0'
NOZZLE 12F: 2.4 GPM, 12.0'
NOZZLE 12H: 1.2 GPM, 12.0'
NOZZLE 12Q: 0.6 GPM, 12.0'
NOZZLE 8H: 0.6 GPM, 8.0'
NOZZLE 8Q: 0.3 GPM, 8.0'



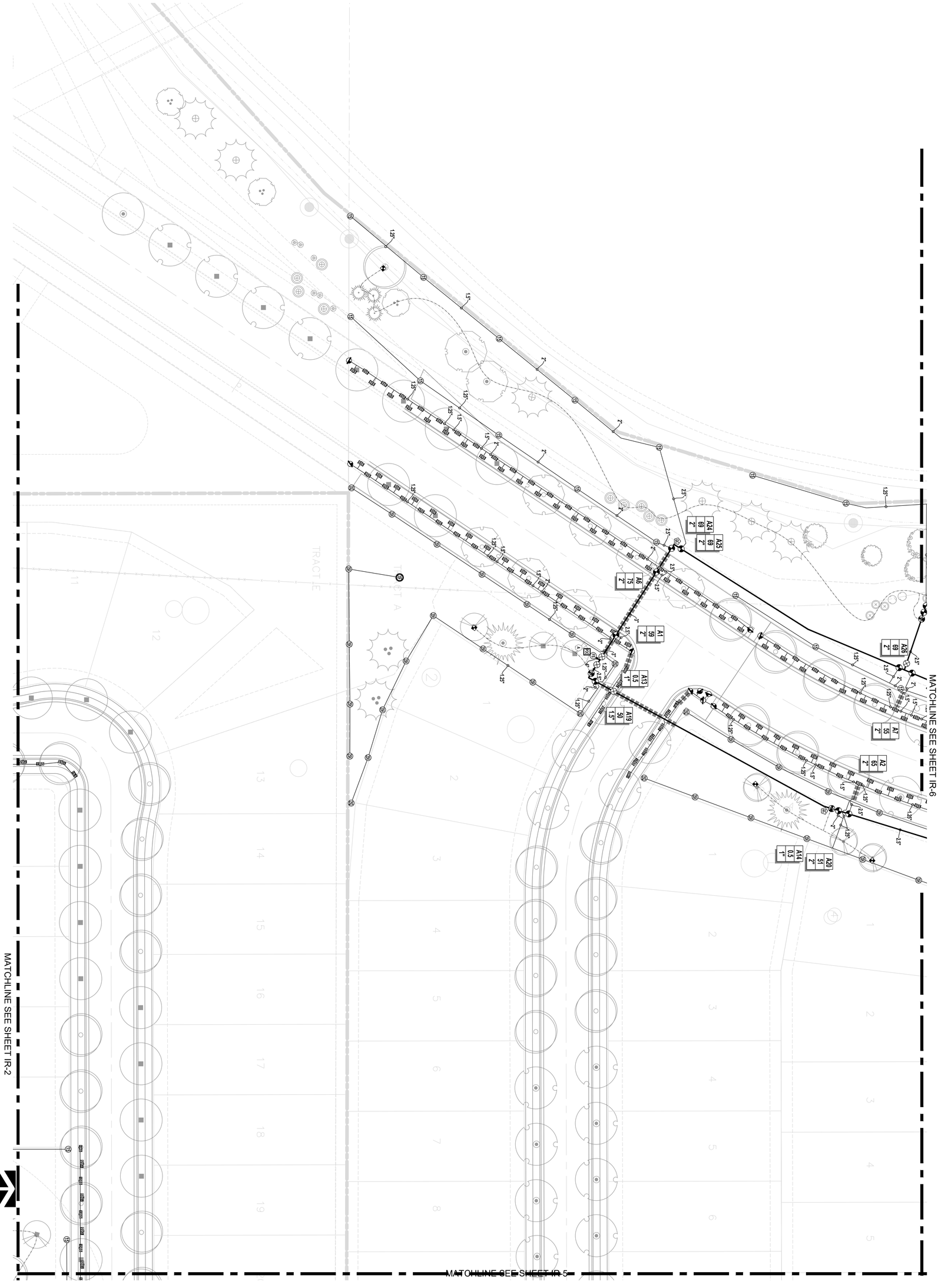
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Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-3



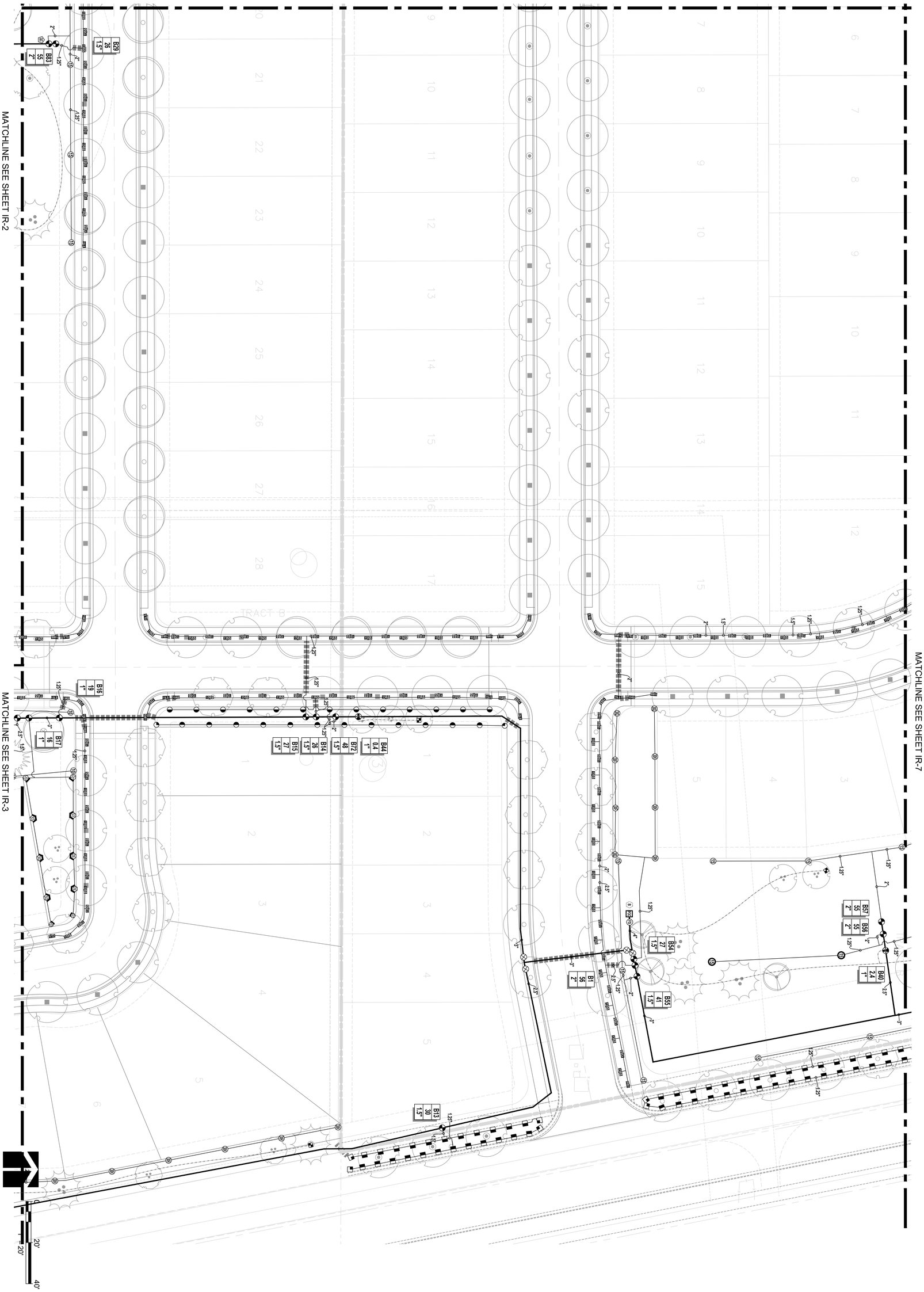
SHEET IR-4

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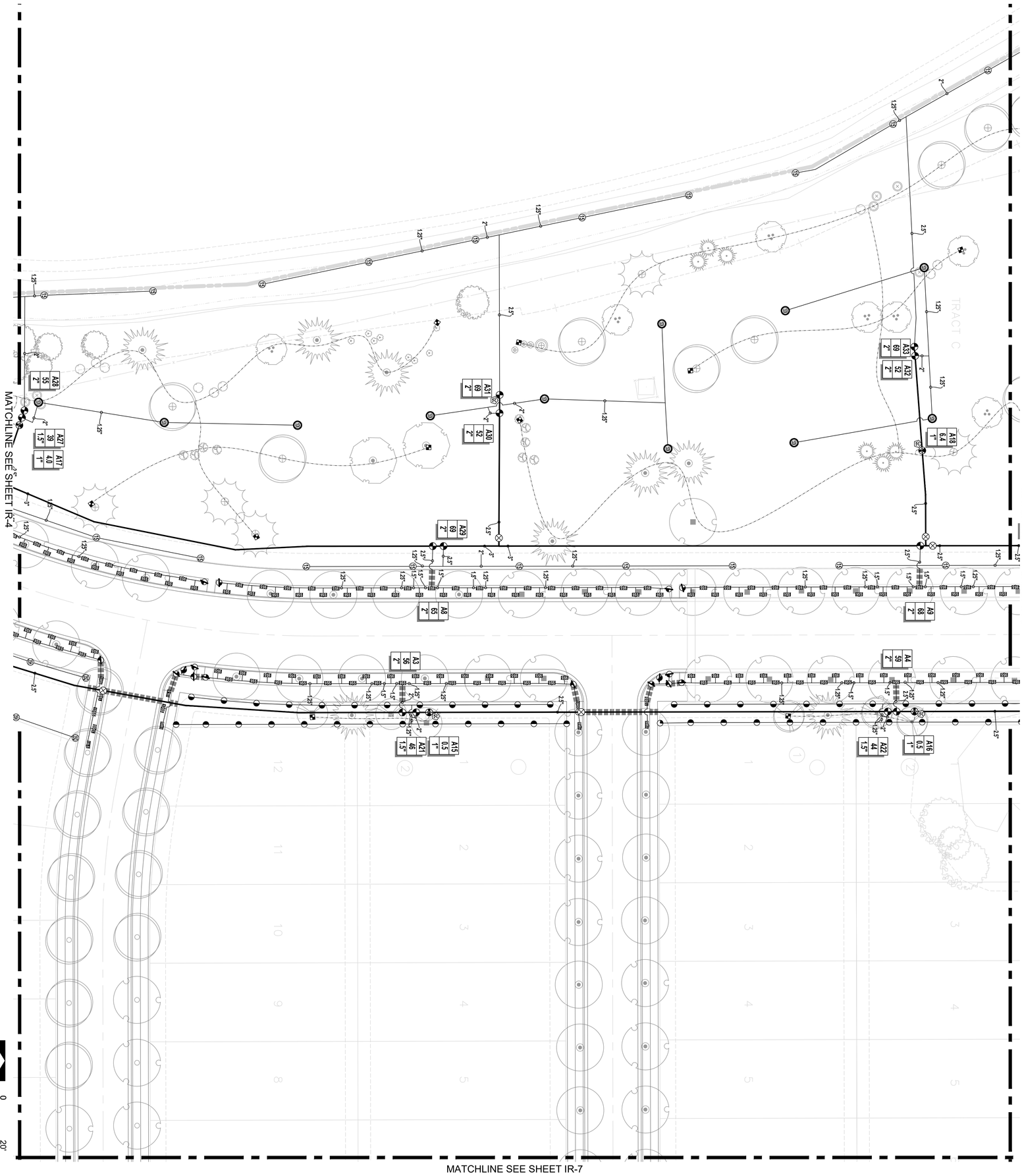
SHEET
IR-5

Cottonwood Green PUD No. 5-10
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NORTH

0 20' 40'
1" = 20'

SHEET
IR-6

Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

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REV	DESCRIPTION OF REVISION	BY	DATE

MATCHLINE SEE SHEET IR-9

MATCHLINE SEE SHEET IR-6

MATCHLINE SEE SHEET IR-5

B12 14 1"
B71 69 2"
B70 23 1"
B11 62 2"
B69 55 2"
B68 62 2"
B67 69 2"
B43 3.4 1"
B41 2.0 1"
B59 69 2"
B3 78 2"
B64 69 2"
B65 69 2"
B8 4.6 1"
B9 34 1.5"
B58 69 2"
B66 69 2"
B10 32 1.5"

TRACT C

0 20' 40'
1" = 20'

NORTH

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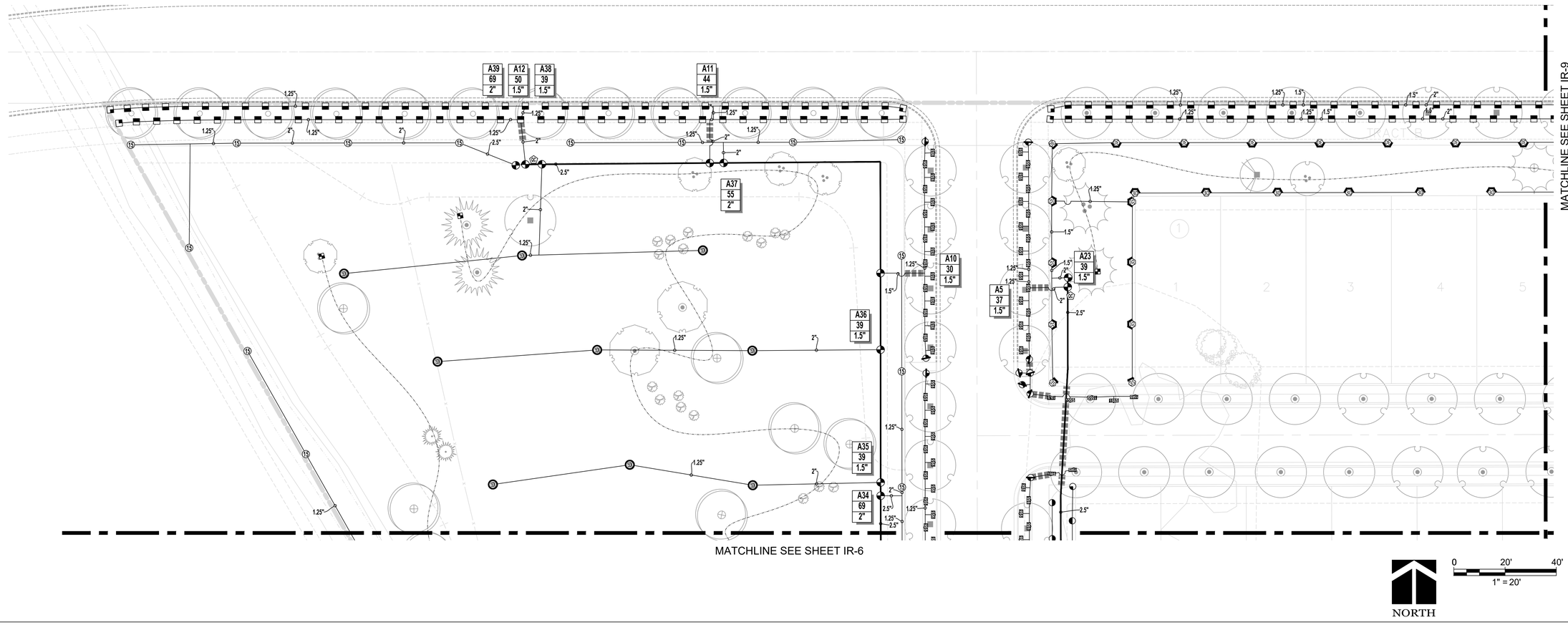
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Cottonwood Green PUD No. 5-10 Openspace Irrigation Plan

SHEET
IR-7

IRRIGATION LEGEND

	MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE		HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
	SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE		NOZZLE 10H: 0.4 GPM, 14.0'
	DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH		NOZZLE 10Q: 0.2 GPM, 14.0'
	SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE		NOZZLE 20F: 1.5 GPM, 19.0'
POC	POINT OF CONNECTION/WINTERIZATION ASSEMBLY		NOZZLE 20H: 0.7 GPM, 19.0'
M	MASTER VALVE/FLOW SENSOR ASSEMBLY		NOZZLE 20Q: 0.4 GPM, 20.0'
	ISOLATION GATE VALVE		NOZZLE 30F: 3.6 GPM, 30.0'
	QUICK COUPLER: RAINBIRD 5RC		NOZZLE 30H: 1.8 GPM, 30.0'
	REMOTE CONTROLE VALVE: RAIN BIRD PESB		NOZZLE 30Q: 0.9 GPM, 30.0'
	DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC		NOZZLE 35H: 2.9 GPM, 35.0'
	DRIP FLUSH CAP		NOZZLE 35Q: 1.3 GPM, 35.0'
C	IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI		RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
		8LCS	NOZZLE 15LCS: 0.5 GPM, 15.0'
A1	CONTROLLER STATION/ID	8RCS	NOZZLE 15RCS: 0.5 GPM, 15.0'
2.2	FLOW (GPM)	8SST	NOZZLE 15SST: 1.2 GPM, 15.0'
1"	NOMINAL VALVE SIZE	8SS	NOZZLE 9SST: 1.7 GPM, 18.0'
	HUNTER-I-20-04-R-MPR 55 PSI		RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
25H	NOZZLE 25H: 2.2 GPM, 25.0'		NOZZLE 10H: 0.9 GPM, 10.0'
25Q	NOZZLE 25Q: 1.1 GPM, 25.0'		NOZZLE 10Q: 0.5 GPM, 10.0'
30F	NOZZLE 30F: 6.4 GPM, 30.0'		NOZZLE 12F: 2.4 GPM, 12.0'
30H	NOZZLE 30H: 3.3 GPM, 30.0'		NOZZLE 12H: 1.2 GPM, 12.0'
30Q	NOZZLE 30Q: 1.6 GPM, 30.0'		NOZZLE 12Q: 0.6 GPM, 12.0'
35F	NOZZLE 35F: 8.4 GPM, 35.0'		NOZZLE 8H: 0.6 GPM, 8.0'
35H	NOZZLE 35H: 4.2 GPM, 35.0'		NOZZLE 8Q: 0.3 GPM, 8.0'
35Q	NOZZLE 35Q: 2.1 GPM, 35.0'		
	HUNTER-I-40-04-R 50 PSI		
10	NOZZLE 10: 10.3 GPM, 49.0'		
13	NOZZLE 13: 11.1 GPM, 50.0'		
15	NOZZLE 15: 13.8 GPM, 54.0'		
15ON	NOZZLE 15ON: 13.0 GPM, 52.0'		
8	NOZZLE 8: 8.4 GPM, 45.0'		



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Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-8

IRRIGATION LEGEND

	MAINLINE: CL200 PVC, 3-INCH UNLESS INDICATED OTHERWISE
	SPRINKLER LATERAL: CL200 PVC, 1-INCH UNLESS INDICATED OTHERWISE
	DRIP TUBING: U.V. RESISTANT LDPE, 60PSI, 0.75-INCH
	SLEEVING: CL200 PVC, 2X NOMINAL SIZE OF CONTAINED PIPE OR WIRE BUNDLE
POC	POINT OF CONNECTION/WINTERIZATION ASSEMBLY
MV	MASTER VALVE/FLOW SENSOR ASSEMBLY
	ISOLATION GATE VALVE
QC	QUICK COUPLER: RAINBIRD 5RC
	REMOTE CONTROLE VALVE: RAIN BIRD PESB
DRIP	DRIP REMOTE CONTROLE VALVE: RAIN BIRD XCZ-100-PRB-LC
	DRIP FLUSH CAP
A	IRRIGATION CONTROLLER: RAIN BIRD ESP-LXD-MSM-LINKWIFI
A1	CONTROLLER STATION/ID
2.2	FLOW (GPM)
1"	NOMINAL VALVE SIZE

HUNTER-I-20-04-R-MPR 55 PSI
- NOZZLE 25H: 2.2 GPM, 25.0'
- NOZZLE 25Q: 1.1 GPM, 25.0'
- NOZZLE 30F: 6.4 GPM, 30.0'
- NOZZLE 30H: 3.3 GPM, 30.0'
- NOZZLE 30Q: 1.6 GPM, 30.0'
- NOZZLE 35F: 8.4 GPM, 35.0'
- NOZZLE 35H: 4.2 GPM, 35.0'
- NOZZLE 35Q: 2.1 GPM, 35.0'

HUNTER-I-40-04-R 50 PSI
- NOZZLE 10: 10.3 GPM, 49.0'
- NOZZLE 13: 11.1 GPM, 50.0'
- NOZZLE 15: 13.8 GPM, 54.0'
- NOZZLE 15ON: 13.0 GPM, 52.0'
- NOZZLE 8: 8.4 GPM, 45.0'

HUNTER PRO SPRAY PRS40 MP ROTATOR 40 PSI
- NOZZLE 10H: 0.4 GPM, 14.0'
- NOZZLE 10Q: 0.2 GPM, 14.0'
- NOZZLE 20F: 1.5 GPM, 19.0'
- NOZZLE 20H: 0.7 GPM, 19.0'
- NOZZLE 20Q: 0.4 GPM, 20.0'
- NOZZLE 30F: 3.6 GPM, 30.0'
- NOZZLE 30H: 1.8 GPM, 30.0'
- NOZZLE 30Q: 0.9 GPM, 30.0'
- NOZZLE 35H: 2.9 GPM, 35.0'
- NOZZLE 35Q: 1.3 GPM, 35.0'

RAIN BIRD-1804-SAM-PRS STRIP 30 PSI
- NOZZLE 15LCS: 0.5 GPM, 15.0'
- NOZZLE 15RCS: 0.5 GPM, 15.0'
- NOZZLE 15SST: 1.2 GPM, 15.0'
- NOZZLE 9SST: 1.7 GPM, 18.0'

RAIN BIRD-1804-SAM-PRS-HE-VAN 30 PSI
- NOZZLE 10H: 0.9 GPM, 10.0'
- NOZZLE 10Q: 0.5 GPM, 10.0'
- NOZZLE 12F: 2.4 GPM, 12.0'
- NOZZLE 12H: 1.2 GPM, 12.0'
- NOZZLE 12Q: 0.6 GPM, 12.0'
- NOZZLE 8H: 0.6 GPM, 8.0'
- NOZZLE 8Q: 0.3 GPM, 8.0'

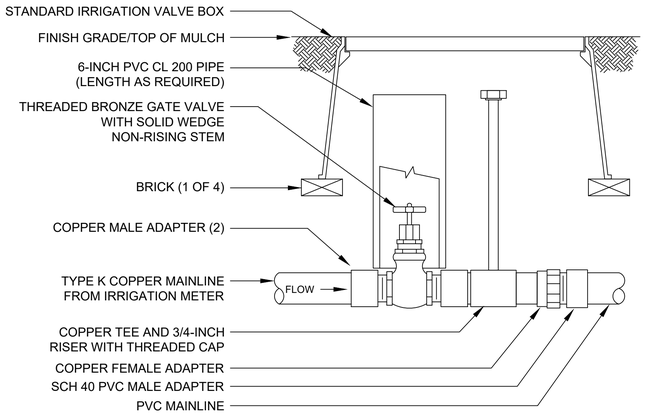
REV	DESCRIPTION OF REVISION	BY	DATE

The Irrigation Engineers
2727 Alan St • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

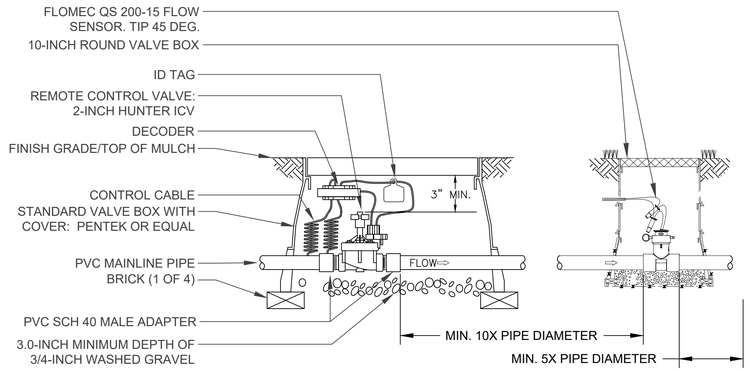
DESIGNED:	AL
DRAWN:	AL
CHECKED:	TG
PROJECT MANAGER:	TG
DATE:	JANUARY 28, 2022

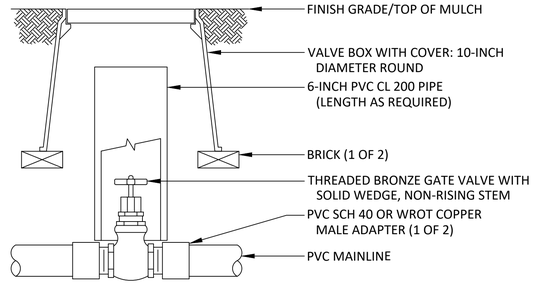
Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET
IR-9

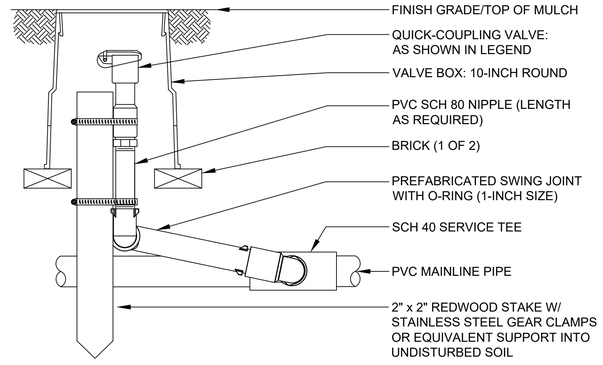


NOTE:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL SIZE OF COPPER PIPE.

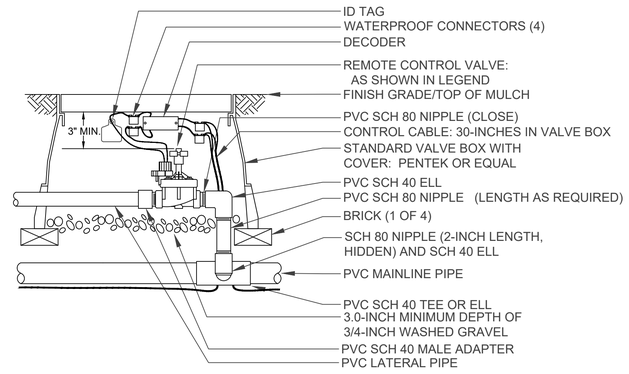


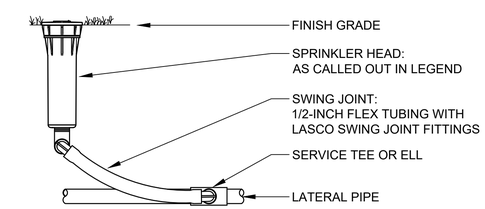


NOTE:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE.

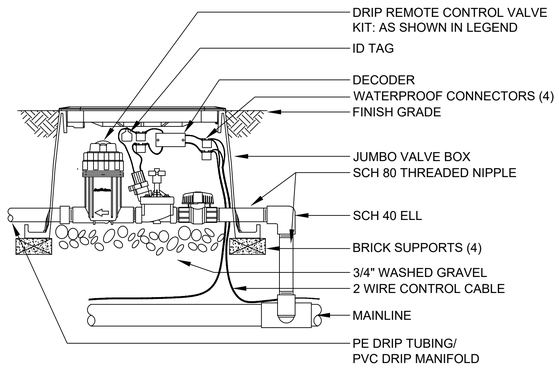


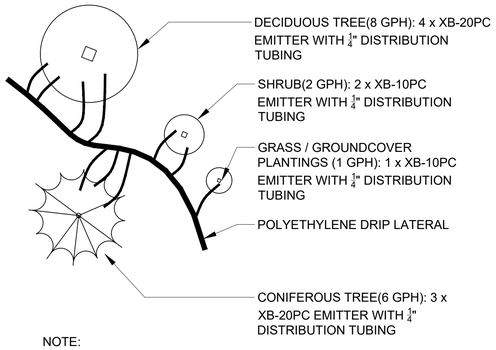
NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.



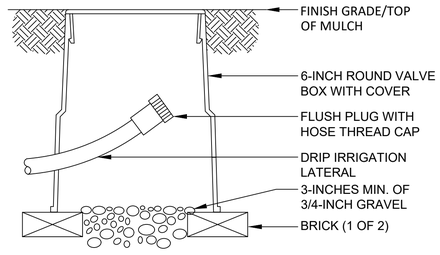


NOTE: FOR SPRINKLERS OVER 5 GPM USE PREFABRICATED PVC SWING JOINT





NOTE:
1. MAXIMUM LENGHT OF ¼" DISTRIBUTION TUBING IS 5-FEET
2. STAKE ENDS OF DISTRIBUTION TUBING ON UPHILL SIDE OF PLANT.



REV	DESCRIPTION OF REVISION	BY	DATE

The Irrigation Engineers
2727 Alan St. • Ft. Collins, CO 80524
307.509.0238 www.IrrigationEngineers.com

DESIGNED:	AL
DRAWN:	AL
CHECKED:	TG
PROJECT MANAGER:	TG
DATE:	JANUARY 28, 2022

Cottonwood Green PUD No. 5-10
Openspace Irrigation Plan

SHEET

IR-10

Phase III Drainage Report

Cottonwood Greens Filing No. 5-10

A part of the Cottonwood Greens Subdivision

Tracts of land in the South Half of Section 33, Township 2 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado

Owner/Developer
Cottonwood Development Partners, LLC
4040 MacArthur Drive, Suite 250
Newport Beach, California 92660
Contact: Mr. Jim Righeimer

Engineer
143 Union Boulevard
Suite 700
Lakewood, CO 80228
Tel: 303.462.1100
Contact: Daniel Rodriguez, PE

Atwell Project Number
21002209

City of Fort Lupton Project Number
LUP2021-xxxx
PPL2021-xxxx

Submittal Date
February 2022

Signature Page

Engineer's Statement:

"I hereby affirm that this report and plan for the Phase III drainage design of the development, Cottonwood Greens Filing No. 5-10, was prepared by me (or under my direct supervision) in accordance with the provisions of the City of Fort Lupton Storm Drainage Design and Technical Criteria for the owners thereof. I understand that the City of Fort Lupton does not and will not assume liability for facilities designed by others. I am also aware of the provisions of the City CODE as it pertains to the City's review."

SEAL & SIGNATURE: _____

Daniel Rodriguez, PE Date

Registered Professional Engineer State of Colorado No. 48683

Developer's Statement:

"Cottonwood Development Partners, LLC hereby affirms that the drainage facilities for the development, Cottonwood Greens Filing No. 5-10, shall be constructed according to the design presented in this report. I understand that the City of Fort Lupton does not and will not assume liability for drainage facilities designed and/or certified by my engineer. I understand that the City of Fort Lupton reviews drainage plans but cannot, on behalf of Cottonwood Development Partners, LLC and/or their successors and/or assigns assume future liability for improper design. I am also aware of the provisions of the City CODE as it pertains to the City's review."

_____

Authorized Signature Date

_____

Printed Name

_____

Title

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APPENDIX A – Existing Conditions
APPENDIX B – Proposed Drainage Plans
APPENDIX C – Rational Method Calculations
APPENDIX D – Inlet and Street Capacity Calculations
APPENDIX G – Referenced Material

General Location and Description

Location

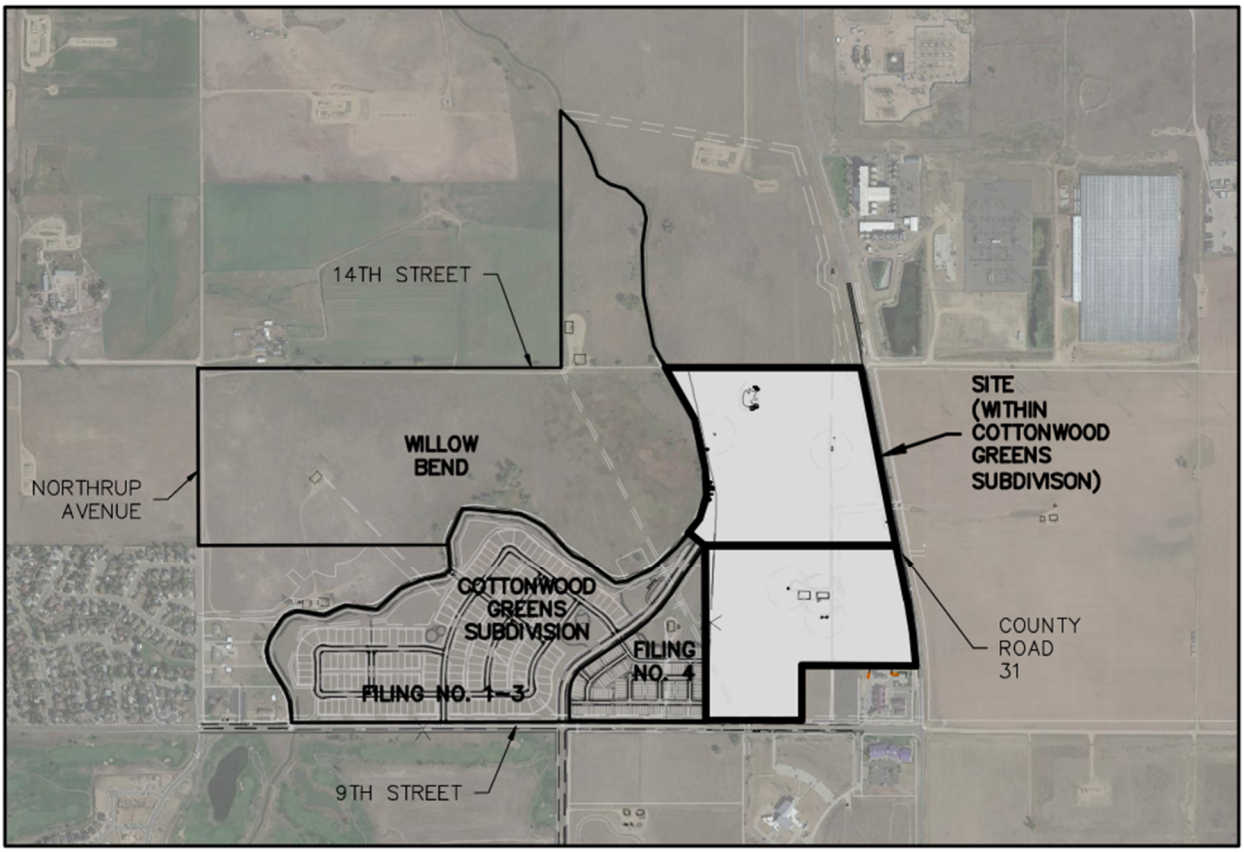


Figure 1 – Project Location

The Cottonwood Greens Filing No. 5-10 project site is two tracts of land within the Cottonwood Greens Subdivision and is situated in the south half of Section 33, Township 2 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado. The site is bounded by Cottonwood Greens Filing No. 1-3 to the Southwest, Cottonwood Greens Filing No. 4 to the West, Fulton Ditch to the West, Weld County Road 31 to the East, 14th Street to the North, and 9th Street to the South. 9th Street is being improved with the College Ave/9th St Reconstruction Project by Wohnrade Civil Engineers for the City of Fort Lupton.

To the West, across the Fulton Ditch is the rest of the Cottonwood Greens P.U.D., soon to be developed as Willow Bend. To the South, across 9th Street, is Coyote Creek Golf Course, a Colorado Army National Guard Station, and a Weld County Facility. The Fort Lupton Fire Department is located at the Northwest corner of 9th Street and County Road 31. Further to the East, across County Road 31, is undeveloped land zoned R-1.

Description of Property

The proposed 75.81-acre Filing No. 5-10 development consists of 231 single-family lots with on-site open spaces and detention. The site is part of the Cottonwood Greens PUD, recorded April 13th, 2006, and is currently undeveloped land used for farming, and houses gas facilities. Two earlier Filings exist for the site. Filing No. 1-3 of Cottonwood Greens proposed 291 single-family lots on 120 acres. Filing No. 4 proposed 137 townhouse residential units in 27 buildings on 16.2 acres. The Filing No. 4 Cottonwood Greens Drainage Report assumed information for this area of the site within their report. This Filing No. 5-10 Drainage Report will re-analyze this earlier Report with updated information and confirm assumptions made.

The site's topography generally slopes from the southeast to northwest with the slopes ranging between 1 percent and 9 percent. An onsite soil report for the site is illustrated in the Web Soil Survey from the National Resource Conservation Service (NRCS) website. The soil report indicates that 95% of the site is Valent Sand with the remainder being loamy sands and clay loam. The site consists of mainly Hydrologic Soil Group A soils. A soil report has been included in Appendix A.

Existing condition plans show all easements within and surrounding the subject property and can be found in the construction drawings.

Historic Drainage Basin

The existing topography shows sheet flow from southeast to northwest with flows entering Detention Pond 3. Detention Pond 3, proposed with Cottonwood Greens Subdivision Filing No. 1-3 Construction Plans and expanded with Filing No. 4, will be the outfall point for the Filing No. 5-10 site. See the earlier Filings and the College Avenue/9th Street Reconstruction for more information about existing drainage to Detention Pond 3.

The downstream outfall for Detention Pond 3 is to the Willow Bend site and ultimately to the existing Golden Pond, located at the southeast corner of Pacific Court and 14th Street. The ultimate outfall for Golden Pond is the South Platte River. For more information on the Golden Pond and Cottonwood Greens Subdivision Detention Pond 3, please see the Drainage Report for the Cottonwood Greens Subdivision Filing No. 1-3.

The project area is not within a FEMA regulated floodplain as shown on FEMA Map No. 08123C2110E in Appendix C. As illustrated, the project site lies within Zone X - determined to be outside of the FEMA 100 and 500-year floodplains.

Proposed Drainage Basins

Drainage Basins

The Filing No. 5-10 site contains 40 onsite drainage basins. 38 basins drain to Detention Pond 3 that was constructed as part of Cottonwood Greens Subdivision Filing No. 1-3 and expanded by Filing No. 4. See

the Filing No. 4 Construction Plans for more information on this pond design. Two basins sheet flow offsite following existing grades and existing drainage patterns.

A Drainage Basin Map has been included in Appendix B of this Report to graphically depict the drainage basins for this Site.

Sub-basin A1 is 3.60 acres comprised of the northern portion of the existing Pond 3 from Filing No. 4, west of College Avenue. Runoff is captured in the pond and drains to the trickle channels which flow to Design Point 1, the existing pond outlet structure. See the Filing No. 4 Construction Plans for more information on this pond design.

Sub-basin A2 is 0.30 acres comprised of the west side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 2.

Sub-basin A3 is 0.41 acres comprised of the east side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 3.

Sub-basin A4 is 4.35 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 4 and is collected in a sump inlet.

Sub-basin A5 is 2.93 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 4 and is collected in a sump inlet.

Sub-basin A6 is 1.20 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 6 and is collected in a sump inlet.

Sub-basin A7 is 0.99 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 6 and is collected in a sump inlet.

Sub-basin A8 is 2.14 acres comprised of open space lawn area. This includes a portion of an existing gas well facility that is to remain onsite. Runoff sheet flows to Design Point 8 and is collected in a Type-D inlet.

Sub-basin A9 is 0.48 acres comprised of the west side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 9.

Sub-basin A10 is 0.40 acres comprised of the east side of College Avenue with sidewalk and landscape buffer. Runoff is captured in the curb and gutter and flows to a sump inlet at Design Point 10.

Sub-basin A11 is 1.30 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 11 and is collected in a sump inlet.

Sub-basin A12 is 2.03 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 12 and is collected in a sump inlet.

Sub-basin A13 is 5.95 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 13 and is collected in a sump inlet.

Sub-basin A14 is 0.70 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 14 and is collected in a sump inlet.

Sub-basin A15 is 2.31 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 15 and is collected in a sump inlet.

Sub-basin A16 is 1.79 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 16 and is collected in a sump inlet.

Sub-basin A17 is 0.38 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 17 and is collected in a sump inlet.

Sub-basin A18 is 1.38 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 18 and is collected in a sump inlet.

Sub-basin A19 is 4.00 acres comprised of the southern portion of the existing Pond 3 from Filing No. 4, east of College Avenue. Runoff is captured in the pond and drains to the trickle channels which flow to Design Point 19, an FES that connects it to the northern portion of the pond. See the Filing No. 4 Construction Plans for more information on this pond design.

Sub-basin A20 is 2.05 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 20 and is collected in a sump inlet.

Sub-basin A21 is 0.87 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 21 and is collected in a sump inlet.

Sub-basin A22 is 1.42 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 22 and is collected in a sump inlet.

Sub-basin A23 is 2.32 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 23 and is collected in a sump inlet.

Sub-basin A24 is 0.46 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 24 and is collected in a sump inlet.

Sub-basin A25 is 4.42 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 25 and is collected in a sump inlet.

Sub-basin A26 is 6.64 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 26 and is collected in a sump inlet.

Sub-basin A27 is 1.32 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 27 and is collected in a sump inlet.

Sub-basin A28 is 0.73 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 28 and is collected in a sump inlet.

Sub-basin A29 is 0.97 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 29 and is collected in a sump inlet.

Sub-basin A30 is 0.87 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 30 and is collected in a sump inlet.

Sub-basin A31 is 1.57 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 31 and is collected in a sump inlet.

Sub-basin A32 is 2.24 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 32 and is collected in two Type-D inlets.

Sub-basin A33 is 1.56 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 33 and is collected in a sump inlet.

Sub-basin A34 is 2.66 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 34 and is collected in four area inlets.

Sub-basin A35 is 0.86 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 35 and is collected in three area inlets.

Sub-basin A36 is 0.67 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows to grass lined swales that route towards Design Point 36 and is collected in a Type-D inlet.

Sub-basin A37 is 2.44 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 37 and is collected in a sump inlet.

Sub-basin A38 is 3.18 acres comprised of residential lots and landscaping. Runoff sheet flows to curb and gutter where it is conveyed to Design Point 38 and is collected in a sump inlet.

Sub-basin B1 is 1.93 acres comprised of rear residential lots and open space lawn area. Runoff sheet flows overland offsite.

Sub-basin B2 is 2.39 acres comprised of lawn area between Pond 3 and the existing Fulton Ditch. Runoff sheet flows overland offsite.

Drainage Design Criteria

The site drainage system has been designed per the City of Fort Lupton's criteria and discussions with the City of Fort Lupton. The storm system for this site has been designed to convey the 100-year event. The ponding area expansion of Detention Pond 3 proposed with Filing No. 4 provided additional capacity to account for the ultimate build out of Filing No. 5-10. Please refer to the Cottonwood Greens Subdivision Filing No. 4 Construction Plans and Drainage Report for information pertaining to the

Detention Pond 3 design. Filing No. 1-3 Drainage Report also provides more information that the ponds had been sized to over-detain, beyond the 100-year event, and release at less than the historic rate. The system had been intended to pass the historic flow through from off-site basins. Once these upstream basins are developed, on-site detention (likely over-detention) will be required of them as well.

Hydrological Criteria

Rational Method calculations were run using spreadsheets provided by the Mile High Flood Control District and can be found in Appendix C.

Hydraulic Criteria

In order to prevent flooding downstream, outlet structures will need to release detained storm water based on the agreed upon release rate. This was determined by Filing No. 1-3 and included within their Report. The Filing No. 1-3 Report also includes information on Ponds 1 and 2 that are offsite from Filing No. 5-10 but must be considered in relation to the release rates of Pond 3. Per this agreement, the entire Cottonwood Greens property cannot release more than 1 cfs in the Minor (5-year) Storm and 47.5 cfs in the Major (100-year) Storm. Using these release rates, downstream drainage facilities will not be impacted for storms up to and including the 100-year storm.

Filing No. 5-10 project does not propose additional stormwater runoff beyond what was anticipated with Filing No. 4. See Table 1 for comparison of Filing No. 4 flows and Filing No. 5-10 flows. As such, the pond designed with Filing No. 4 is still valid and no modifications are required. See Filing No. 4 Drainage Report for more information about the sizing of Detention Pond 3. See Filing No. 4 for all pond calculations, including outlet structure calculations. See Filing No. 1-3 for additional details on the outfall for Pond 3 that combines the flows from Pond 1 and 2 outlets and take them under Fulton Ditch, through an easement on the adjacent property (Willow Bend Development) to the Northwest.

Basin	Stormwater Runoff
	100-year (cfs)
OS2 + OS3 (Filing No. 4)	176.2
Basin A (Filing No. 5-10)	166.8

Table 1 – Filing No. 4 Runoff and Filing No. 5-10 Runoff

The natural drainage path for the site leads to an irrigation ditch that cannot accept any additional runoff to prevent flooding of land downstream, so all pipes and inlets have been sized for the 100-Year Major Storm. This development will not increase runoff to the Fulton Ditch. Inlet and Street Capacity calculations can be found in Appendix D. Street Capacity is confirmed throughout the Site. All pipes are sized appropriately with no adverse impacts to surrounding lots.

Summary

As shown in this report, this project proposes less stormwater runoff to Detention Pond 3 then was assumed by Filing No. 4. Therefore, the design from Filing No. 4 is correct and no additional calculations are required. Adequate detention has been provided, and the combined release rate for rainfall events up to and including the 100-Year storm will be released below the historic release rates for the Site per Filing No. 1-3. The outfall shown with Filing No. 1-3 will convey drainage through Willow Bend and eventually to Golden's Pond. Additional flow from potential upstream development, not mentioned as part of this analysis, may trigger regional upgrades.

References

1) Storm Drainage Utility Plan, City of Fort Lupton; Adopted March 2015.
2) City of Fort Lupton Storm Drainage Design and Technical Criteria Manual; City of Fort Lupton
3) Drainage Criteria Manual, Volumes 1, 2, &3, Mile High Flood Control District; Latest Editions.
4) Construction Plans for Cottonwood Greens Development Filing No. 1-3, Atwell, LLC.
5) Phase III Drainage Report for Cottonwood Greens Development Filing No. 1-3, Atwell, LLC.
6) Construction Plans for Cottonwood Greens Development Filing No. 4, Atwell, LLC.
7) Phase III Drainage Report for Cottonwood Greens Development Filing No. 4, Atwell, LLC.
8) Cottonwood Greens Filing No. 5-10 Construction Plans, Atwell, LLC.
9) College Ave/9th St Reconstruction Project, Wohnrade Civil Engineers.
10) Flood Insurance Rate Map of Weld County Colorado: Map No. 08123C2110E, Federal Emergency Management Agency; September 30, 2019.
11) USDA – NRCS – Web Soil Survey

APPENDIX A – Existing Conditions

GOLDEN POND

Willow Bend

Filing No. 5-10 Site

POND 3

Cottonwood Greens Filing No. 1-3 and Filing No. 4

9th Street and College Avenue Improvements (By WCE)

Pond 3 Design Basin (dashed red boundary)

Major Basin - 14th Street Basin

14TH STREET

WELD COUNTY RD 14 1/2

9TH STREET

COUNTY RD 29 1/2

1ST STREET

COLORADO STATE HIGHWAY 52

US HIGHWAY No. 85

UNION PACIFIC RAILROAD

SHORTLINE DITCH

CEMETERY ROAD

WELD COUNTY RD 12

MATCHLINE SHEET 2

LEGEND
- STORM SEWER LINE
- STORM MANHOLE
- STORM INLET
- CITY LIMITS
- RAILROAD – UNION PACIFIC
- DRAINAGE BASIN

400 200 0 400 800 1200
SCALE IN FEET

J&T Consulting, Inc.
305 Denver Avenue • Suite D
Fort Lupton, CO 80621
Ph: 303.857.8704 • Fax: 303.857.0244
www.JConsulting.com

South Utility Extensions

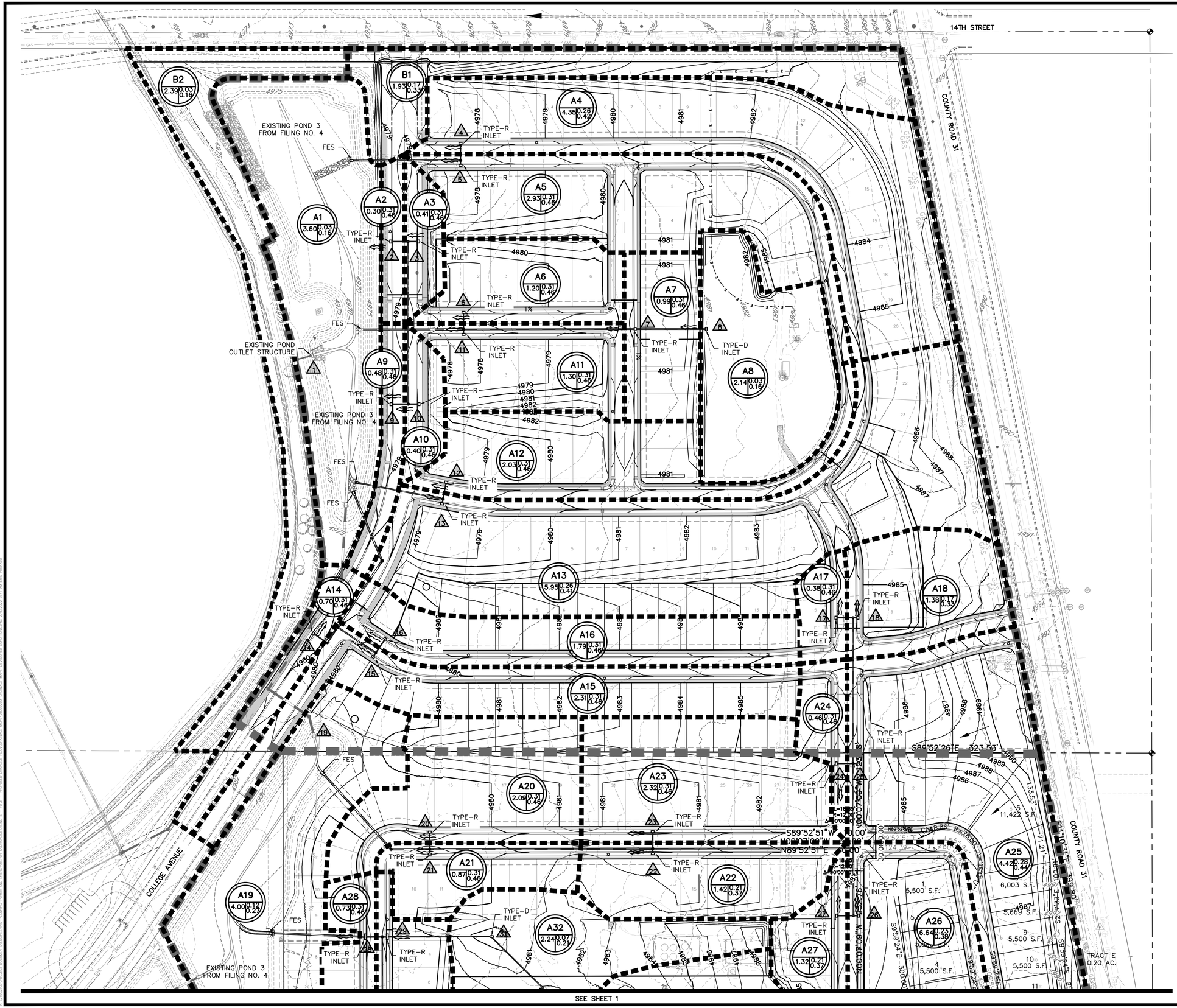
Storm Sewer System Map

City of Ft. Lupton

REVISIONS				
No	Date	By	Chk	Description

Job #	10108
Date	6/14/10
Drawn By	TPY/WSS
Designed By	TPY
Checked By	JCY
File	JT-storm
Scale	1" = 400'
Sheet:	Of:

APPENDIX B – Proposed Drainage Plans



BASIN	PEAK FLOW, Q (CFS)	
	5-YR	100-YR
A1	0.34	3.71
A2	0.42	1.19
A3	0.53	1.51
A4	3.03	9.20
A5	2.48	7.03
A6	1.21	3.41
A7	1.02	2.87
A8	0.17	1.79
A9	0.69	1.94
A10	0.55	1.56
A11	1.37	3.87
A12	2.12	5.98
A13	3.67	11.23
A14	1.05	2.96
A15	1.95	5.51
A16	1.52	4.30
A17	0.46	1.31
A18	0.62	2.29
A19	1.27	5.63
A20	1.99	5.62
A21	0.91	2.57
A22	0.94	3.14
A23	2.10	5.94
A24	0.57	1.60
A25	3.73	10.95
A26	4.05	13.09
A27	0.96	3.20
A28	0.81	2.28
A29	0.99	2.79
A30	0.98	2.77
A31	1.60	4.53
A32	0.36	2.23
A33	1.66	4.70
A34	0.73	3.82
A35	0.65	2.13
A36	1.00	2.84
A37	2.63	7.45
A38	2.48	7.89
TOTAL TO POND 3	53.6	166.8
B1	1.58	5.83
B2	0.27	2.88
TOTAL OFF-SITE	1.9	8.7

(IN FEET)
1 inch = 80 ft.

A = BASIN DESIGNATION
B = AREA IN ACRES
C = 5 YR RUNOFF COEFFICIENT
D = 100 YR RUNOFF COEFFICIENT

DESIGN POINT

MAJOR DRAINAGE BASIN BOUNDARY (FROM FILING NO. 4)

MINOR DRAINAGE BASIN BOUNDARY

DRAINAGE FLOW ARROW

EMERGENCY OVERFLOW

Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

DEVELOPER
ARBOR CAPITAL PARTNERS, LLC
4040 MacARTHUR BLVD.
SUITE 250
NEWPORT BEACH, CA 92660
303-905-3496

ARBOR CAPITAL PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 5 – 10
FORT LUPTON, COLORADO
PROPOSED DRAINAGE BASIN MAPS
DRAINAGE MAP NORTH

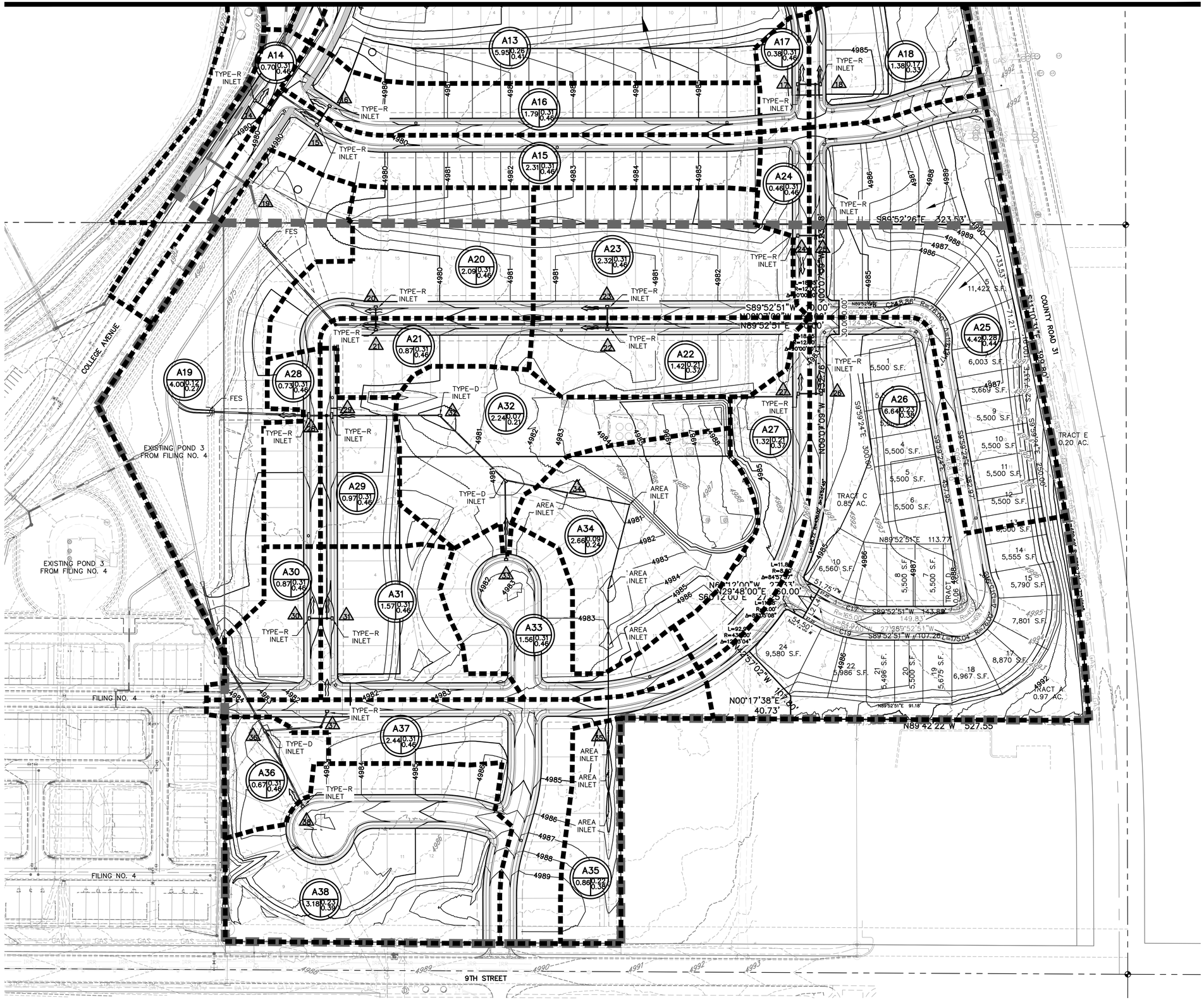
DATE 2/9/2022

REVISIONS

DR. AMC | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO. 1 OF 2

CAD FILE: 21002209-DRAINAGE MAPS-DEVELOPED CONDITIONS.DWG

SEE SHEET 2



BASIN	PEAK FLOW, Q (CFS)	
	5-YR	100-YR
A1	0.34	3.71
A2	0.42	1.19
A3	0.53	1.51
A4	3.03	9.20
A5	2.48	7.03
A6	1.21	3.41
A7	1.02	2.87
A8	0.17	1.79
A9	0.69	1.94
A10	0.55	1.56
A11	1.37	3.87
A12	2.12	5.98
A13	3.67	11.23
A14	1.05	2.96
A15	1.95	5.51
A16	1.52	4.30
A17	0.46	1.31
A18	0.62	2.29
A19	1.27	5.63
A20	1.99	5.62
A21	0.91	2.57
A22	0.94	3.14
A23	2.10	5.94
A24	0.57	1.60
A25	3.73	10.95
A26	4.05	13.09
A27	0.96	3.20
A28	0.81	2.28
A29	0.99	2.79
A30	0.98	2.77
A31	1.60	4.53
A32	0.36	2.23
A33	1.66	4.70
A34	0.73	3.82
A35	0.65	2.13
A36	1.00	2.84
A37	2.63	7.45
A38	2.48	7.89
TOTAL TO POND 3	53.6	166.8
B1	1.58	5.83
B2	0.27	2.88
TOTAL OFF-SITE	1.9	8.7

(IN FEET)
1 inch = 80 ft.

A = BASIN DESIGNATION
B = AREA IN ACRES
C = 5 YR RUNOFF COEFFICIENT
D = 100 YR RUNOFF COEFFICIENT

DESIGN POINT

MAJOR DRAINAGE BASIN BOUNDARY (FROM FILING NO. 4)

MINOR DRAINAGE BASIN BOUNDARY

DRAINAGE FLOW ARROW

EMERGENCY OVERFLOW

811 Know what's below. Call before you dig.

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NOTICE:
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ARBOR CAPITAL PARTNERS, LLC

ARBOR CAPITAL PARTNERS, LLC
COTTONWOOD GREENS FILING NO. 5 – 10
FORT LUPTON, COLORADO
PROPOSED DRAINAGE BASIN MAPS
DRAINAGE MAP SOUTH

DATE 2/9/2022

REVISIONS

DR. AMC | CH. CJG
P.M. DJR
JOB 21002209
SHEET NO.
2 OF 2

CAD FILE: 21002209-DRAINAGE MAPS-DEVELOPED CONDITIONS.DWG

APPENDIX C – Rational Method Calculations

PERCENT IMPERVIOUS CALCULATION

PROJECT MANE: Cottonwood Greens Filing No. 5 - 10
PROJECT NO: 21002209
LOCATION: Fort Lupton, Colorado

*Calculations on this sheet come from Figure 603: Fort Lupton Drainage Manual

NRCS Hydrologic Soil Group: A

Single Family	45% Impervious
Multi-Unit (attached)	70% Impervious
Parks, cemeteries	7% Impervious
Paved	100% Impervious
Drive and walks	96% Impervious
Lawns, clayey soil	7% Impervious
Historic flow analysis	2% Impervious

PROPOSED DRAINAGE AREA

BASIN ID	Notes	A_{total} (ft²)	Single Family (ft²)	Multi-Unit (attached) (ft²)	Parks, cemeteries (ft²)	Paved (ft²)	Drive and walks (ft²)	Lawns, clayey soil (ft²)	Historic flow analysis (ft²)	A_{total} (Ac)	Percent Impervious
A1		156816	0	0	0	0	0	156816	0	3.60	7.0%
A2		13043	13043	0	0	0	0	0	0	0.30	45.0%
A3		17860	17860	0	0	0	0	0	0	0.41	45.0%
A4		189486	160631	0	0	0	0	28855	0	4.35	39.2%
A5		127631	127631	0	0	0	0	0	0	2.93	45.0%
A6		52272	52272	0	0	0	0	0	0	1.20	45.0%
A7		43124	43124	0	0	0	0	0	0	0.99	45.0%
A8		93218	0	0	0	0	0	93218	0	2.14	7.0%
A9		20909	20909	0	0	0	0	0	0	0.48	45.0%
A10		17424	17424	0	0	0	0	0	0	0.40	45.0%
A11		56628	56628	0	0	0	0	0	0	1.30	45.0%
A12		88427	88427	0	0	0	0	0	0	2.03	45.0%
A13		259182	216442	0	0	0	0	42740	0	5.95	38.7%
A14		30492	30492	0	0	0	0	0	0	0.70	45.0%
A15		100624	100624	0	0	0	0	0	0	2.31	45.0%
A16		77972	77972	0	0	0	0	0	0	1.79	45.0%
A17		16553	16553	0	0	0	0	0	0	0.38	45.0%
A18		60113	28553	0	0	0	0	31560	0	1.38	25.0%
A19		174341	64811	0	0	0	0	109530	0	4.00	21.1%
A20		89298	89298	0	0	0	0	0	0	2.05	45.0%
A21		37897	37897	0	0	0	0	0	0	0.87	45.0%
A22		61855	42624	0	0	0	0	19231	0	1.42	33.2%
A23		101059	101059	0	0	0	0	0	0	2.32	45.0%
A24		20038	20038	0	0	0	0	0	0	0.46	45.0%
A25		192535	177274	0	0	0	0	15261	0	4.42	42.0%
A26		289238	213963	0	0	0	0	75275	0	6.64	35.1%
A27		57499	40134	0	0	0	0	17365	0	1.32	33.5%
A28		31799	31799	0	0	0	0	0	0	0.73	45.0%
A29		42253	42253	0	0	0	0	0	0	0.97	45.0%
A30		37897	37897	0	0	0	0	0	0	0.87	45.0%
A31		68389	68389	0	0	0	0	0	0	1.57	45.0%
A32		97574	16240	0	0	0	0	81334	0	2.24	13.3%
A33		67954	67954	0	0	0	0	0	0	1.56	45.0%
A34		115870	29480	0	0	0	0	86390	0	2.66	16.7%
A35		37462	26937	0	0	0	0	10525	0	0.86	34.3%
A36		29185	29185	0	0	0	0	0	0	0.67	45.0%
A37		106286	106286	0	0	0	0	0	0	2.44	45.0%
A38		138521	106044	0	0	0	0	32477	0	3.18	36.1%
B1		84071	46661	0	0	0	0	37410	0	1.93	28.1%
B2		104108	0	0	0	0	0	104108	0	2.39	7.0%
Subtotals:		3,406,904	2,464,808	0	0	0	0	942,096	0		34.5%

Drainage Area= 78.21

Calculation of Peak Runoff using Rational Method

Designer:
Company: Atwell, LLC
Date: 1/27/2022
Project: Cottonwood Greens Filing No. 5 - 10
Location: Fort Lupton, Colorado

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_i^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_t}} = \frac{L_t}{60V_t}$$

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

$t_{minimum}$ = 5 (urban)
$t_{minimum}$ = 10 (non-urban)

Selected $t_c = \max\{t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c)\}$

Select UDFCD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
1-hour rainfall depth, P1 (in) =	1.00	1.42	1.68		2.35	2.71	

Rainfall Intensity Equation Coefficients =	a	b	c
	28.50	10.00	0.786

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$$Q(cfs) = CIA$$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time					Channelized (Travel) Flow Time							Time of Concentration			Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)	Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
A1	3.60	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	102.00			0.070	10.28	356.00			0.005	20	1.41	4.20	14.47	33.22	14.47	2.31	3.28	3.88		5.43	6.26		0.22	0.34	0.46		1.66	3.71	
A2	0.30	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	20.00			0.020	5.07	140.00			0.010	20	2.00	1.17	6.24	19.88	6.24	3.19	4.53	5.35		7.49	8.64		0.28	0.42	0.52		0.92	1.19	
A3	0.41	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	25.00			0.010	7.12	90.00			0.010	20	2.00	0.75	7.87	19.33	7.87	2.96	4.20	4.96		6.94	8.01		0.36	0.53	0.66		1.17	1.51	
A4	4.35	A	39.2	0.25	0.26	0.28	0.31	0.36	0.42	0.51	172.00			0.030	13.83	955.00			0.010	20	2.00	7.96	21.79	30.32	21.79	1.88	2.67	3.16		4.42	5.09		2.03	3.03	3.78		6.91	9.20	
A5	2.93	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	185.00			0.020	15.42	660.00			0.010	20	2.00	5.50	20.92	25.54	20.92	1.92	2.73	3.23		4.51	5.21		1.67	2.48	3.09		5.41	7.03	
A6	1.20	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	130.00			0.020	12.92	240.00			0.010	20	2.00	2.00	14.92	20.96	14.92	2.28	3.23	3.82		5.35	6.17		0.81	1.21	1.50		2.63	3.41	
A7	0.99	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	140.00			0.020	13.41	100.00			0.010	20	2.00	0.83	14.25	19.44	14.25	2.33	3.30	3.91		5.47	6.30		0.68	1.02	1.26		2.21	2.87	
A8	2.14	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	200.00			0.020	21.76	10.00			0.020	15	2.12	0.08	21.84	24.93	21.84	1.88	2.67	3.15		4.41	5.09		0.11	0.17	0.22		0.80	1.79	
A9	0.48	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	275.00			0.010	20	2.00	2.29	5.88	21.35	5.88	3.24	4.61	5.45		7.62	8.79		0.46	0.69	0.85		1.50	1.94	
A10	0.40	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	25.00			0.020	5.67	110.00			0.010	20	2.00	0.92	6.58	19.55	6.58	3.13	4.45	5.27		7.37	8.49		0.37	0.55	0.69		1.21	1.56	
A11	1.30	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.030	11.94	184.00			0.010	20	2.00	1.53	13.47	20.35	13.47	2.39	3.39	4.01		5.61	6.46		0.92	1.37	1.70		2.98	3.87	
A12	2.03	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.030	11.94	220.00			0.010	20	2.00	1.83	13.77	20.75	13.77	2.36	3.35	3.97		5.55	6.40		1.42	2.12	2.63		4.61	5.98	
A13	5.95	A	38.7	0.24	0.26	0.27	0.30	0.36	0.41	0.50	265.00			0.020	19.72	790.00			0.010	20	2.00	6.58	26.31	28.55	26.31	1.69	2.40	2.84		3.98	4.59		2.46	3.67	4.59		8.42	11.23	
A14	0.70	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	165.00			0.010	20	2.00	1.38	4.96	20.15	5.00	3.39	4.82	5.70		7.97	9.19		0.71	1.05	1.30		2.28	2.96	
A15	2.31	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	115.00			0.010	15.28	705.00			0.010	20	2.00	5.88	21.16	26.03	21.16	1.91	2.71	3.21		4.49	5.17		1.31	1.95	2.42		4.24	5.51	
A16	1.79	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	110.00			0.010	14.94	705.00			0.010	20	2.00	5.88	20.82	26.03	20.82	1.93	2.73	3.24		4.53	5.22		1.02	1.52	1.89		3.32	4.30	
A17	0.38	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	85.00			0.030	9.14	35.00			0.010	20	2.00	0.29	9.43	18.73	9.43	2.77	3.93	4.65		6.50	7.50		0.31	0.46	0.58		1.01	1.31	
A18	1.38	A	28.0	0.16	0.17	0.18	0.21	0.26	0.33	0.43	255.00			0.020	21.34	85.00			0.010	20	2.00	0.71	22.05	22.34	22.05	1.87	2.65	3.14		4.39	5.06		0.41	0.62	0.79		1.60	2.29	
A19	4.00	A	21.1	0.11	0.12	0.13	0.15	0.21	0.27	0.39	150.00			0.040	13.74	660.00			0.005	20	1.41	7.78	21.52	35.43	21.52	1.89	2.69	3.18		4.45	5.13		0.84	1.27	1.63		3.65	5.63	
A20	2.05	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	155.00			0.020	14.11	235.00			0.010	20	2.00	1.96	16.07	20.91	16.07	2.20	3.12	3.69		5.16	5.95		1.34	1.99	2.47		4.33	5.62	
A21	0.87	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	115.00			0.020	12.16	185.00			0.010	20	2.00	1.54	13.70	20.37	13.70	2.37	3.36	3.98		5.56	6.42		0.61	0.91	1.13		1.98	2.57	
A22	1.42	A	33.2	0.20	0.21	0.22	0.26	0.31	0.37	0.47	120.00			0.020	13.99	220.00			0.010	20	2.00	1.83	15.82	23.04	15.82	2.21	3.14	3.72		5.20	6.00		0.63	0.94	1.18		2.28	3.14	
A23	2.32	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	210.00			0.020	16.43	245.00			0.010	20	2.00	2.04	18.47	21.02	18.47	2.05	2.91	3.44		4.82	5.56		1.41	2.10	2.61		4.57	5.94	
A24	0.46	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	75.00			0.030	8.59	80.00			0.010	20	2.00	0.67	9.25	19.22	9.25	2.79	3.96	4.68		6.55	7.55		0.38	0.57	0.70		1.23	1.60	
A25	4.42	A	41.8	0.27	0.28	0.30	0.33	0.38	0.44	0.52	185.00			0.040	12.70	590.00			0.010	20	2.00	4.92	17.62	25.51	17.62	2.10	2.98	3.53		4.93	5.69		2.50	3.73	4.65		8.33	10.95	
A26	6.64	A	35.1	0.21	0.23	0.24	0.27	0.32	0.38	0.48	205.00			0.030	15.72	685.00			0.010	20	2.00	5.71	21.42	28.24	21.42	1.90	2.69	3.19		4.46	5.14		2.71	4.05	5.09		9.61	13.09	
A27	1.32	A	33.5	0.20	0.21	0.23	0.26	0.31	0.37	0.47	120.00			0.030	12.20	115.00			0.010	20	2.00	0.96	13.16	21.71	13.16	2.41	3.42	4.05		5.66	6.53		0.64	0.96	1.21		2.33	3.20	
A28	0.73	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	90.00			0.020	10.75	165.00			0.010	20	2.00	1.38	12.13	20.15	12.13	2.50	3.55	4.20		5.87	6.77		0.54	0.81	1.00		1.75	2.28	
A29	0.97	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	170.00			0.030	12.93	195.00			0.010	20	2.00	1.63	14.55	20.47	14.55	2.30	3.27	3.87		5.41	6.24		0.66	0.99	1.22		2.15	2.79	
A30	0.87	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	90.00			0.030	9.41	260.00			0.010	20	2.00	2.17	11.57	21.18	11.57	2.55	3.62	4.28		5.99	6.91		0.66	0.98	1.22		2.13	2.77	
A31	1.57	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	145.00			0.020	13.65	95.00			0.010	20	2.00	0.79	14.44	19.38	14.44	2.31	3.28	3.88		5.43	6.26		1.08	1.60	1.99		3.49	4.53	
A32	2.24	A	13.3	0.06	0.07	0.07	0.09	0.14	0.21	0.34	405.00			0.020	29.90	165.00			0.020	15	2.12	1.30	31.20	25.53	25.53	1.72	2.45	2.89		4.05	4.67		0.23	0.36	0.47		1.26	2.23	
A33	1.56	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	65.00			0.020	9.14	475.00			0.010	20	2.00	3.96	13.10	23.52	13.10	2.42	3.43	4.06		5.68	6.55		1.12	1.66	2.07		3.63	4.70	
A34	2.66	A	16.7	0.08	0.09	0.10	0.12	0.17	0.24	0.36	125.00			0.040	12.93	270.00			0.010	15	1.50	3.00	15.93	27.13	15.93	2.21	3.13	3.71		5.18	5.98		0.48	0.73	0.95		2.31	3.82	
A35	0.86	A	34.3	0.21	0.22	0.23	0.27	0.32	0.38	0.48	55.00			0.020	9.38	325.00			0.010	15	1.50	3.61	12.99	24.09	12.99	2.43	3.44	4.07		5.70	6.57		0.43	0.65	0.82		1.56	2.13	
A36	0.67	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	10.00			0.020	3.58	100.00			0.030	15	2.60	0.64	4.23	18.98	5.00	3.39	4.82	5.70		7.97	9.19		0.67	1.00	1.25		2.19	2.84	
A37	2.44	A	45.0	0.30	0.31	0.33	0.36	0.41	0.46	0.54	85.00			0.020	10.45	275.00			0.010	20	2.00	2.29	12.74	21.35	12.74	2.45	3.47	4.11		5.75	6.63		1.77	2.63	3.27		5.74	7.45	
A38	3.18	A	36.1	0.22	0.23	0.25	0.28	0.33	0.39	0.49	135.00			0.030	12.63	170.00			0.010	20	2.00	1.42	14.05	21.88	14.05	2.34	3.32	3.93		5.50	6.34		1.66	2.48	3.11		5.83	7.89	
B1	1.93	A	28.1	0.16	0.17	0.18	0.21	0.26	0.33	0.44	10.00			0.020	4.22	50.00			0.010	20	2.00	0.42	4.64	21.87	5.00	3.39	4.82	5.70		7.97	9.19		1.05	1.58	2.01		4.08	5.83	
B2	2.39	A	7.0	0.03	0.03	0.03	0.04	0.08	0.16	0.30	20.00			0.030	6.02	10.00			0.020	7	0.99	0.17	6.19	24.93	10.00	2.71	3.84	4.55		6.36	7.33		0.17	0.27	0.36		1.29	2.88	

BASIN	PEAK FLOW, Q (CFS)	
	5-YR	100-YR
A1	0.34	3.71
A2	0.42	1.19
A3	0.53	1.51
A4	3.03	9.20
A5	2.48	7.03
A6	1.21	3.41
A7	1.02	2.87
A8	0.17	1.79
A9	0.69	1.94
A10	0.55	1.56
A11	1.37	3.87
A12	2.12	5.98
A13	3.67	11.23
A14	1.05	2.96
A15	1.95	5.51
A16	1.52	4.30
A17	0.46	1.31
A18	0.62	2.29
A19	1.27	5.63
A20	1.99	5.62
A21	0.91	2.57
A22	0.94	3.14
A23	2.10	5.94
A24	0.57	1.60
A25	3.73	10.95
A26	4.05	13.09
A27	0.96	3.20
A28	0.81	2.28
A29	0.99	2.79
A30	0.98	2.77
A31	1.60	4.53
A32	0.36	2.23
A33	1.66	4.70
A34	0.73	3.82
A35	0.65	2.13
A36	1.00	2.84
A37	2.63	7.45
A38	2.48	7.89
TOTAL TO POND 3	53.6	166.8
B1	1.58	5.83
B2	0.27	2.88
TOTAL OFF-SITE	1.9	8.7

APPENDIX D – Inlet and Street Capacity Calculations

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 2	Inlet 3	Inlet 4
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.2	1.6	3.0
Major Q_{Known} (cfs)	2.4	3.2	9.2

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.2**	**1.6**	**3.0**
Major Total Design Peak Flow, Q (cfs)	**2.4**	**3.2**	**9.2**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 5	Inlet 6	Inlet 7
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.5	1.2	1.0
Major Q_{Known} (cfs)	7.0	3.4	2.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.5**	**1.2**	**1.0**
Major Total Design Peak Flow, Q (cfs)	**7.0**	**3.4**	**2.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 9	Inlet 10	Inlet 11
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.9	1.6	1.4
Major Q_{Known} (cfs)	3.8	3.2	3.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.9**	**1.6**	**1.4**
Major Total Design Peak Flow, Q (cfs)	**3.8**	**3.2**	**3.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 12
Site Type (Urban or Rural)	URBAN
Inlet Application (Street or Area)	STREET
Hydraulic Condition	In Sump
Inlet Type	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.1
Major Q_{Known} (cfs)	6.0

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0

Watershed Characteristics

Subcatchment Area (acres)	
Percent Impervious	
NRCS Soil Type	

Watershed Profile

Overland Slope (ft/ft)	
Overland Length (ft)	
Channel Slope (ft/ft)	
Channel Length (ft)	

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.1**
Major Total Design Peak Flow, Q (cfs)	**6.0**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 13	Inlet 14	Inlet 15
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	3.7	2.8	2.0
Major Q_{Known} (cfs)	11.2	5.5	5.5

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**3.7**	**2.8**	**2.0**
Major Total Design Peak Flow, Q (cfs)	**11.2**	**5.5**	**5.5**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 16	Inlet 17	Inlet 18
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.0	0.5	0.6
Major Q_{Known} (cfs)	4.3	1.3	2.3

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.0**	**0.5**	**0.6**
Major Total Design Peak Flow, Q (cfs)	**4.3**	**1.3**	**2.3**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 20	Inlet 21	Inlet 22
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.0	0.9	0.9
Major Q_{Known} (cfs)	5.6	2.6	3.1

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.0**	**0.9**	**0.9**
Major Total Design Peak Flow, Q (cfs)	**5.6**	**2.6**	**3.1**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 23
Site Type (Urban or Rural)	URBAN
Inlet Application (Street or Area)	STREET
Hydraulic Condition	In Sump
Inlet Type	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.1
Major Q_{Known} (cfs)	5.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0

Watershed Characteristics

Subcatchment Area (acres)	
Percent Impervious	
NRCS Soil Type	

Watershed Profile

Overland Slope (ft/ft)	
Overland Length (ft)	
Channel Slope (ft/ft)	
Channel Length (ft)	

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)	
One-Hour Precipitation, P_1 (inches)	

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**2.1**
Major Total Design Peak Flow, Q (cfs)	**5.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 24	Inlet 25	Inlet 26
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.6	3.7	4.1
Major Q_{Known} (cfs)	1.6	11.0	13.1

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.6**	**3.7**	**4.1**
Major Total Design Peak Flow, Q (cfs)	**1.6**	**11.0**	**13.1**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 27	Inlet 28	Inlet 29
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.0	0.8	1.0
Major Q_{Known} (cfs)	3.2	2.3	2.8

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.0**	**0.8**	**1.0**
Major Total Design Peak Flow, Q (cfs)	**3.2**	**2.3**	**2.8**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 30	Inlet 31	Inlet 33
Site Type (Urban or Rural)	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET
Hydraulic Condition	In Sump	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.0	1.6	1.7
Major Q_{Known} (cfs)	2.8	4.5	4.7

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)			
Percent Impervious			
NRCS Soil Type			

Watershed Profile

Overland Slope (ft/ft)			
Overland Length (ft)			
Channel Slope (ft/ft)			
Channel Length (ft)			

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)			
One-Hour Precipitation, P_1 (inches)			

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.0**	**1.6**	**1.7**
Major Total Design Peak Flow, Q (cfs)	**2.8**	**4.5**	**4.7**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet 37	Inlet 38
Site Type (Urban or Rural)	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET
Hydraulic Condition	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	2.6	2.5
Major Q_{Known} (cfs)	7.5	7.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)		
Percent Impervious		
NRCS Soil Type		

Watershed Profile

Overland Slope (ft/ft)		
Overland Length (ft)		
Channel Slope (ft/ft)		
Channel Length (ft)		

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

CALCULATED OUTPUT

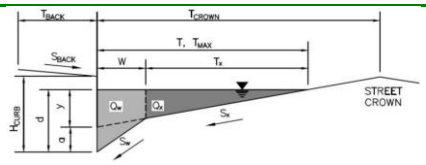
Minor Total Design Peak Flow, Q (cfs)	**2.6**	**2.5**
Major Total Design Peak Flow, Q (cfs)	**7.5**	**7.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	N/A

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 2**



Gutter Geometry:

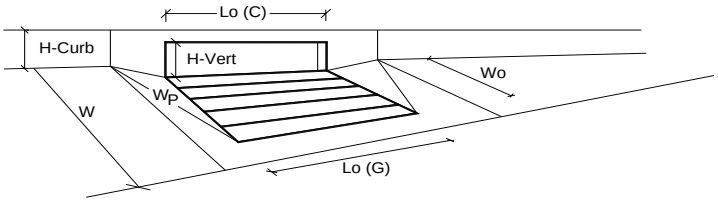
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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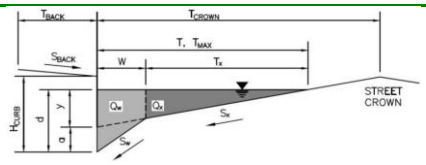
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.2	2.4	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 3**



Gutter Geometry:

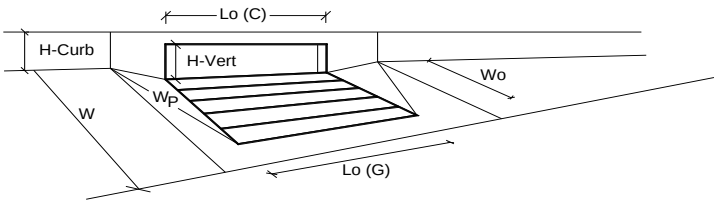
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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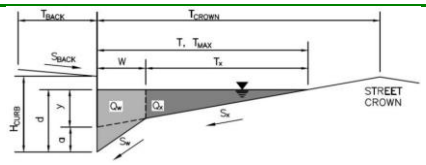
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 4**



Gutter Geometry:

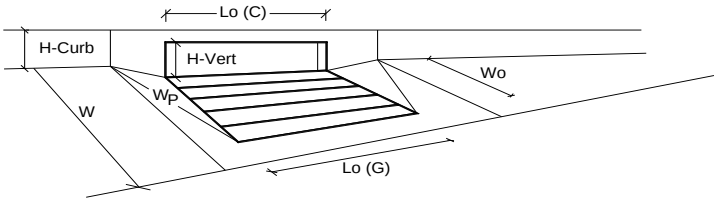
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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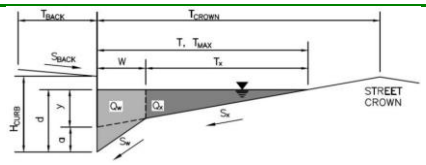
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.0	9.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 5**



Gutter Geometry:

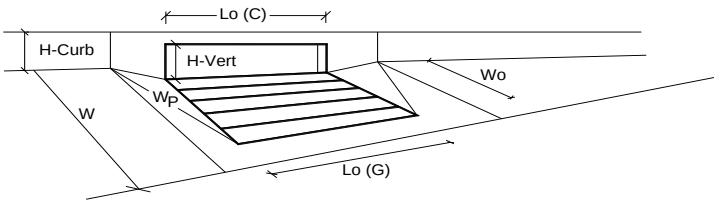
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

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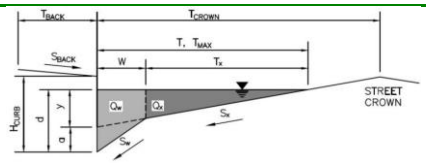
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.5	7.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 6**



Gutter Geometry:

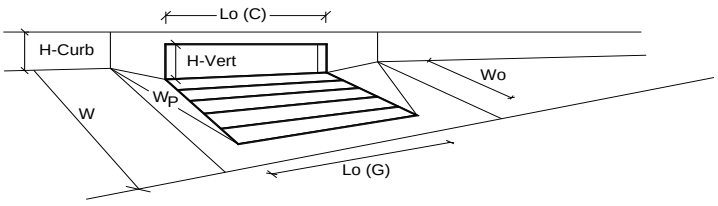
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



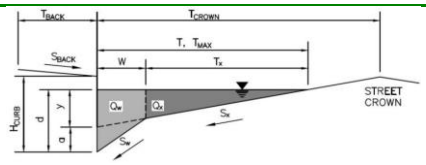
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.2	3.4	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 7**



Gutter Geometry:

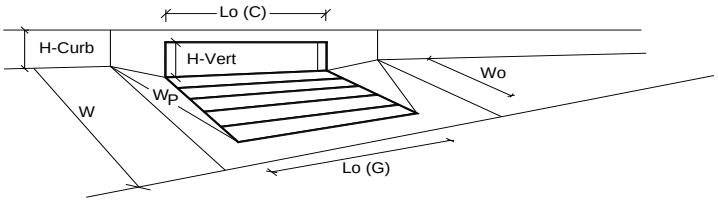
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



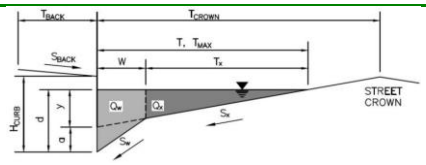
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 9**



Gutter Geometry:

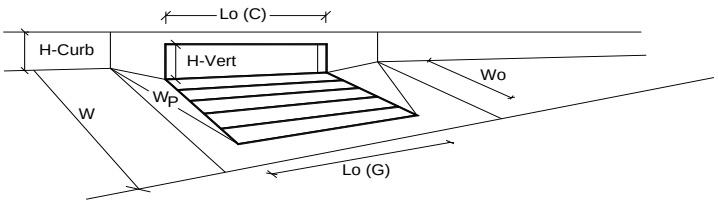
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



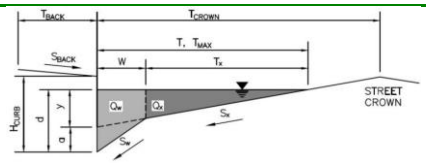
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.9	3.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 10**



Gutter Geometry:

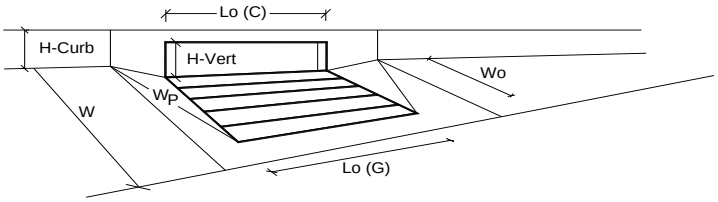
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



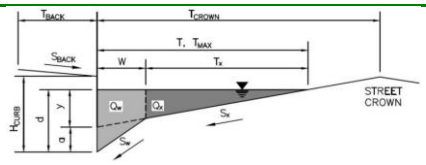
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 11**



Gutter Geometry:

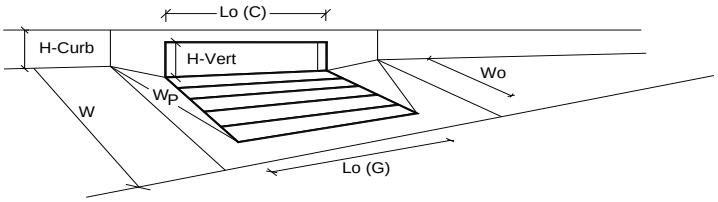
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



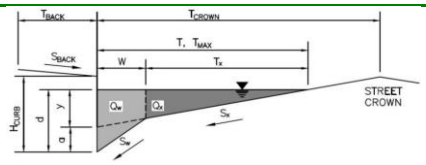
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.4	3.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 12**



Gutter Geometry:

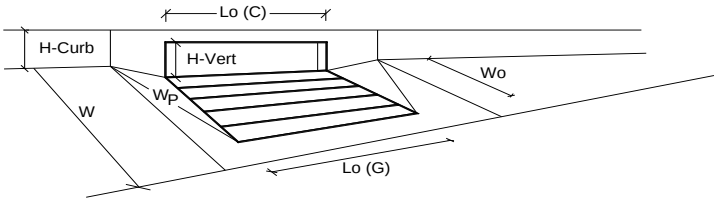
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



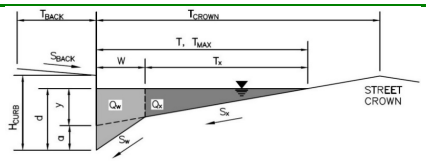
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.1	6.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 13



Gutter Geometry:

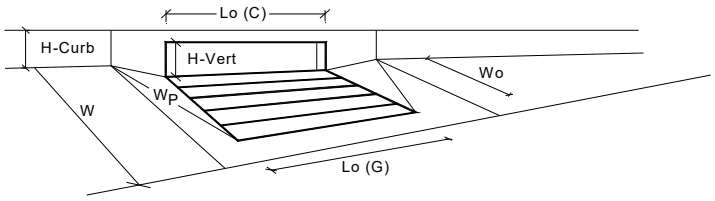
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



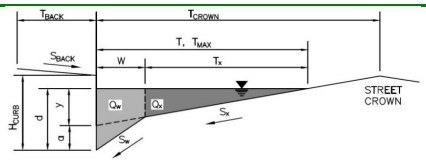
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.7	11.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 14



Gutter Geometry:

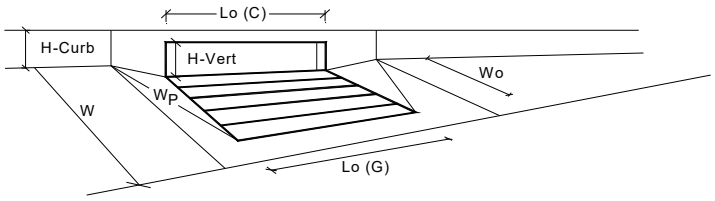
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	23.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	23.5	23.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



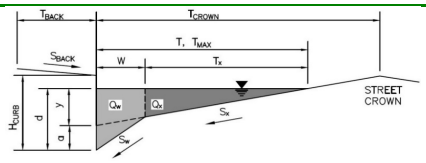
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**12.3**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.8	5.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 15



Gutter Geometry:

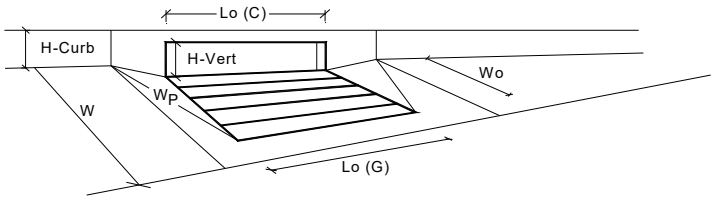
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

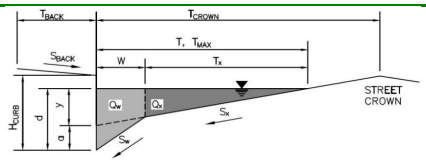
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	5.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 16



Gutter Geometry:

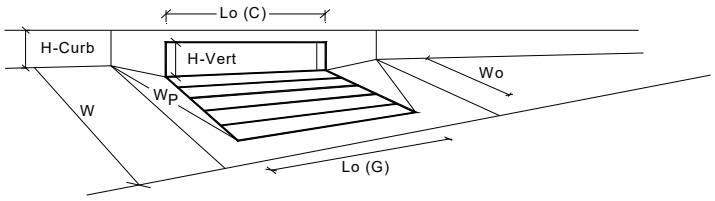
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

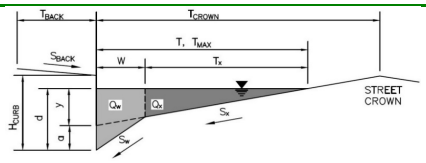
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	4.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 17



Gutter Geometry:

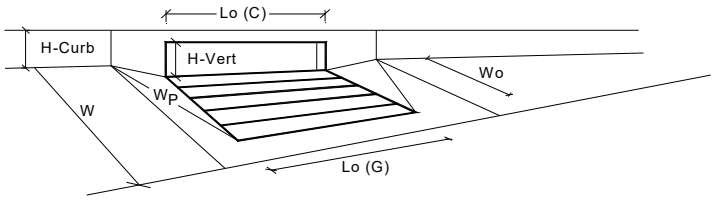
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

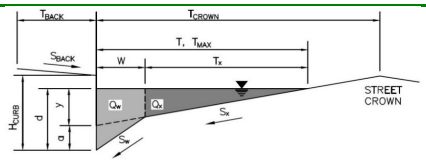
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.5	1.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 18



Gutter Geometry:

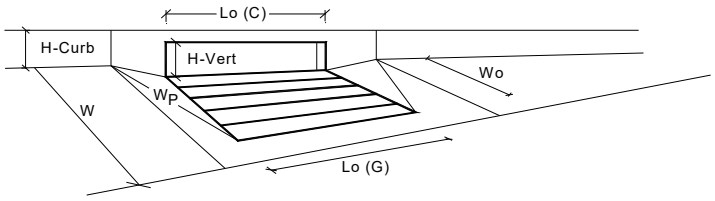
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

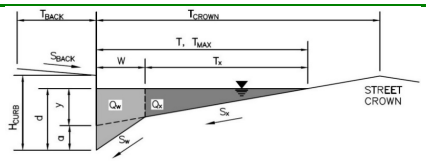
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.6	2.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 20



Gutter Geometry:

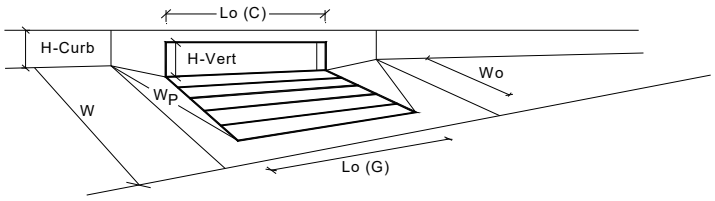
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

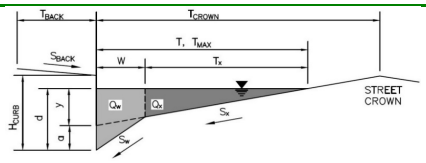
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.0	5.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 21**



Gutter Geometry:

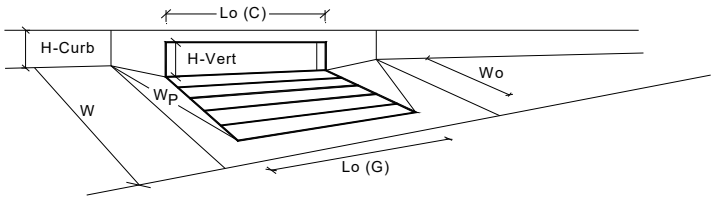
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

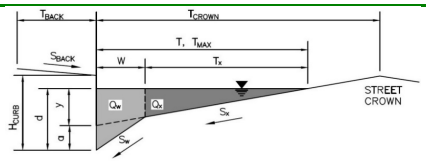
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.9	2.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 22



Gutter Geometry:

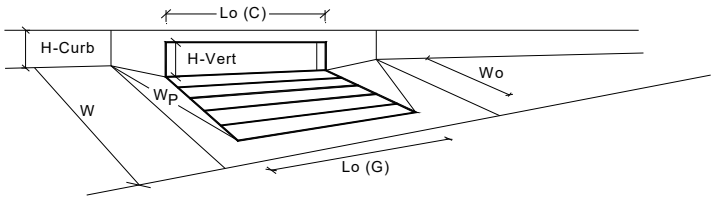
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



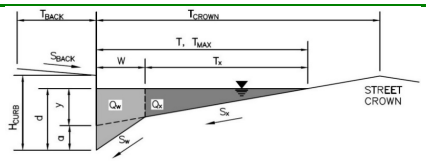
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.9	3.1	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 23**



Gutter Geometry:

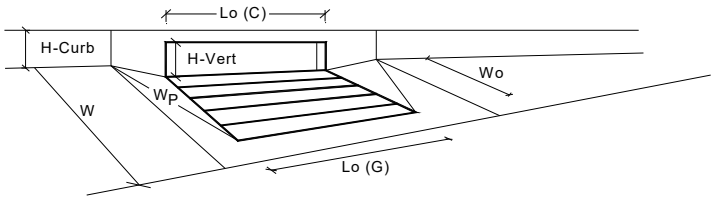
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

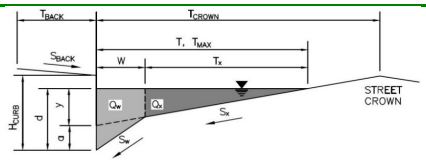
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.1	5.9	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 24



Gutter Geometry:

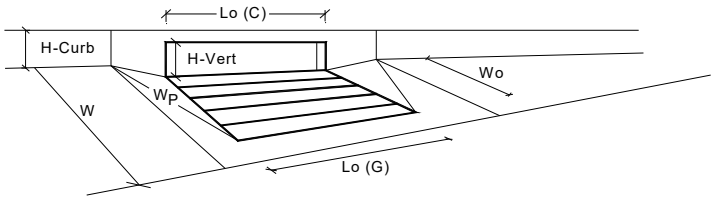
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

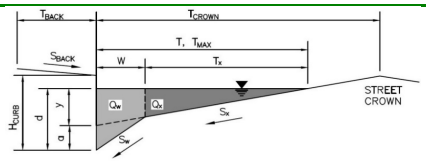
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.6	1.6	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 25



Gutter Geometry:

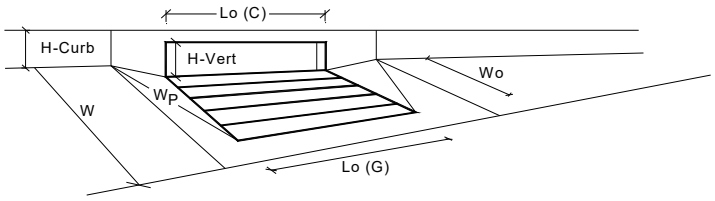
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



CDOT Type R Curb Opening

Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	☑ Override Depths
Grate Information		MINOR	MAJOR	
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

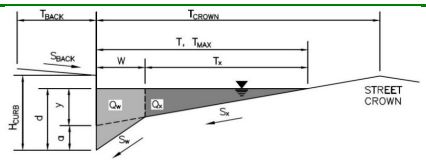
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.7	11.0	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 26



Gutter Geometry:

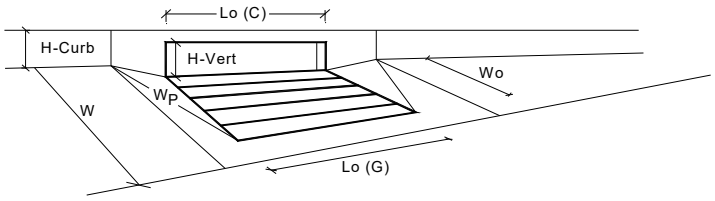
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

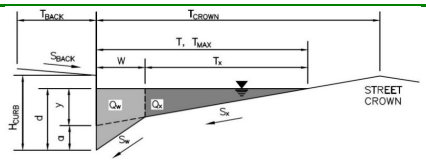
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	4.1	13.1	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 27**



Gutter Geometry:

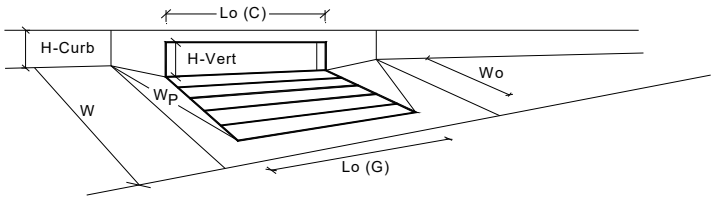
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



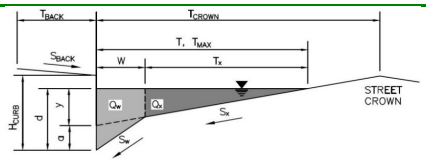
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	3.2	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 28



Gutter Geometry:

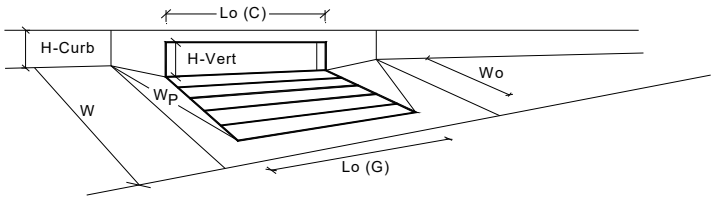
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



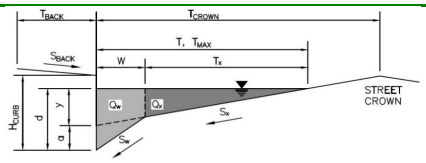
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.57	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**10.5**	**27.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	0.8	2.3	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 29



Gutter Geometry:

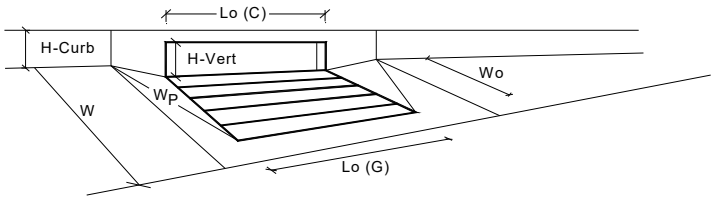
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



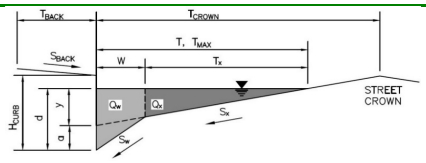
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.57	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.93	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**10.5**	**27.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 30



Gutter Geometry:

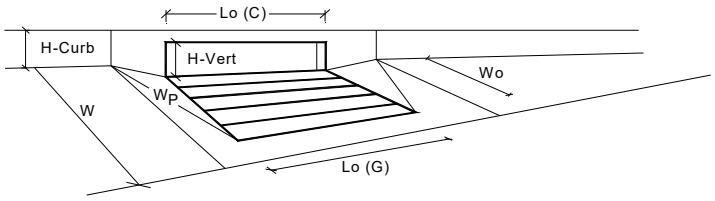
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

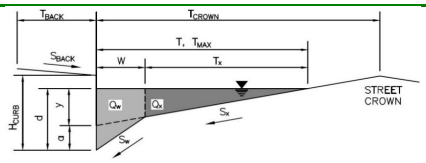
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.0	2.8	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 31**



Gutter Geometry:

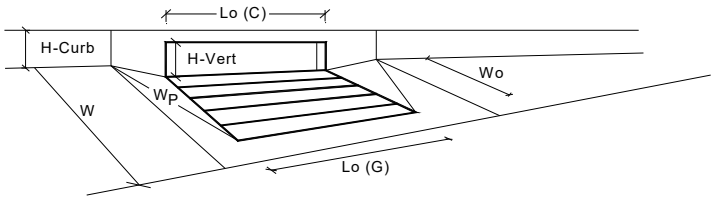
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

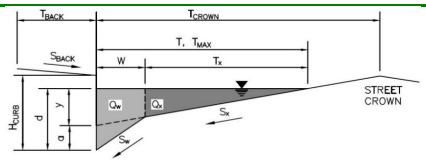
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.6	4.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: **COTTONWOOD GREENS FILING NO. 5 - 10**

Inlet ID: **Inlet 33**



Gutter Geometry:

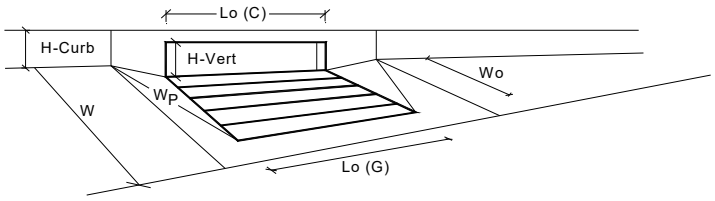
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

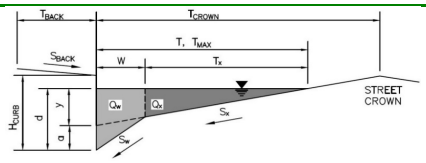
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	1.7	4.7	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 37



Gutter Geometry:

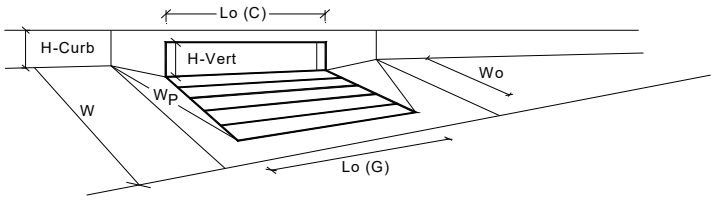
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	

Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

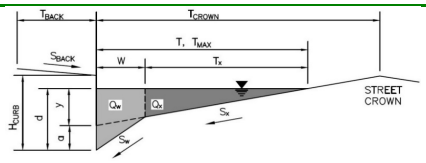
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.6	7.5	cfs

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: COTTONWOOD GREENS FILING NO. 5 - 10

Inlet ID: Inlet 38



Gutter Geometry:

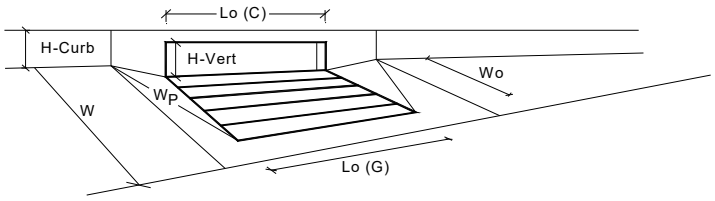
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	10.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	12.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)



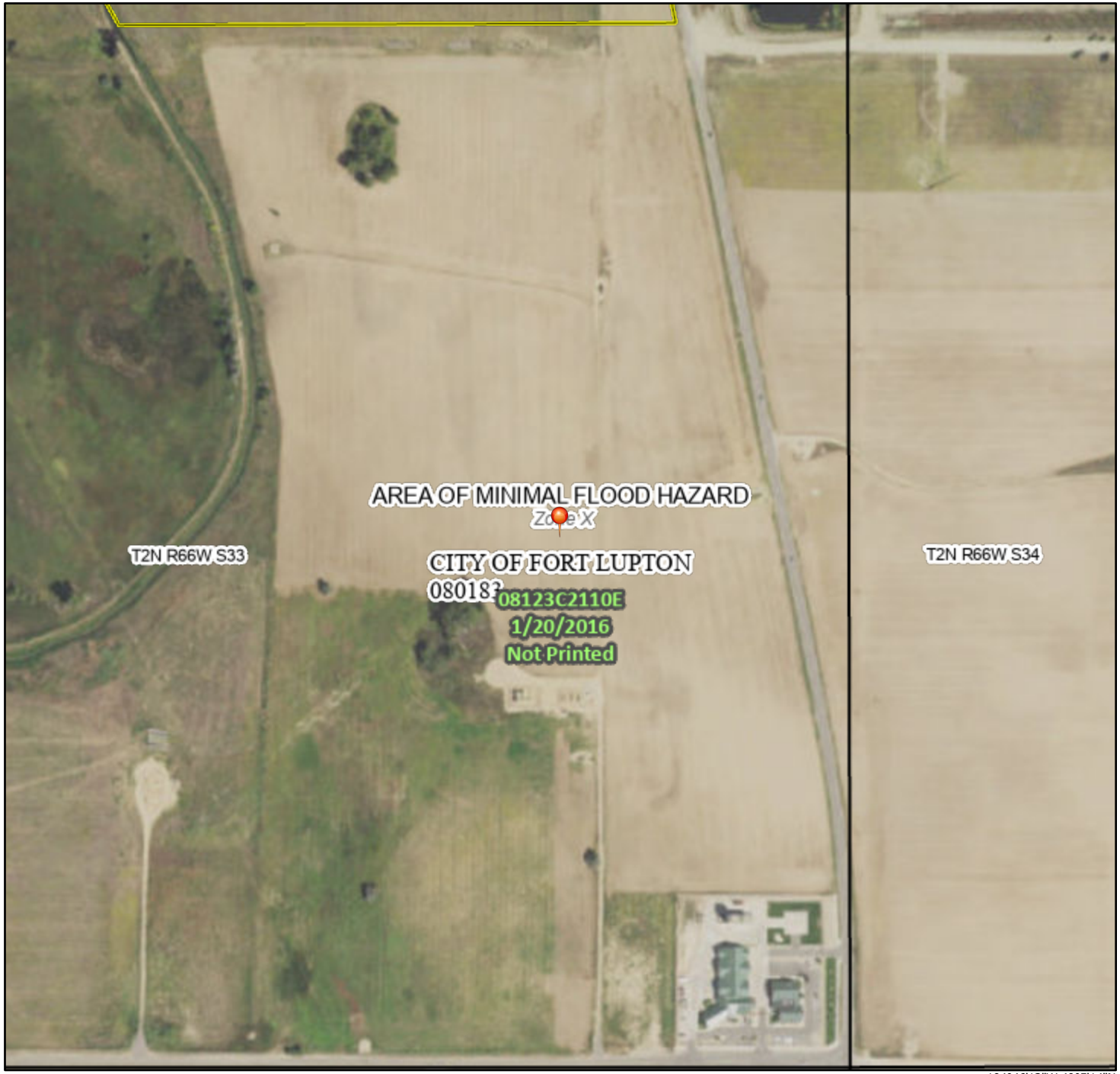
Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	6.0	12.0	inches
Grate Information		MINOR	MAJOR	☑ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.33	0.83	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.77	1.00	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**5.4**	**13.2**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.5	7.9	cfs

APPENDIX G – Referenced Material

National Flood Hazard Layer FIRMette

FEMA

104°46'51"W 40°5'42"N



104°46'13"W 40°5'14"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/23/2021 at 4:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

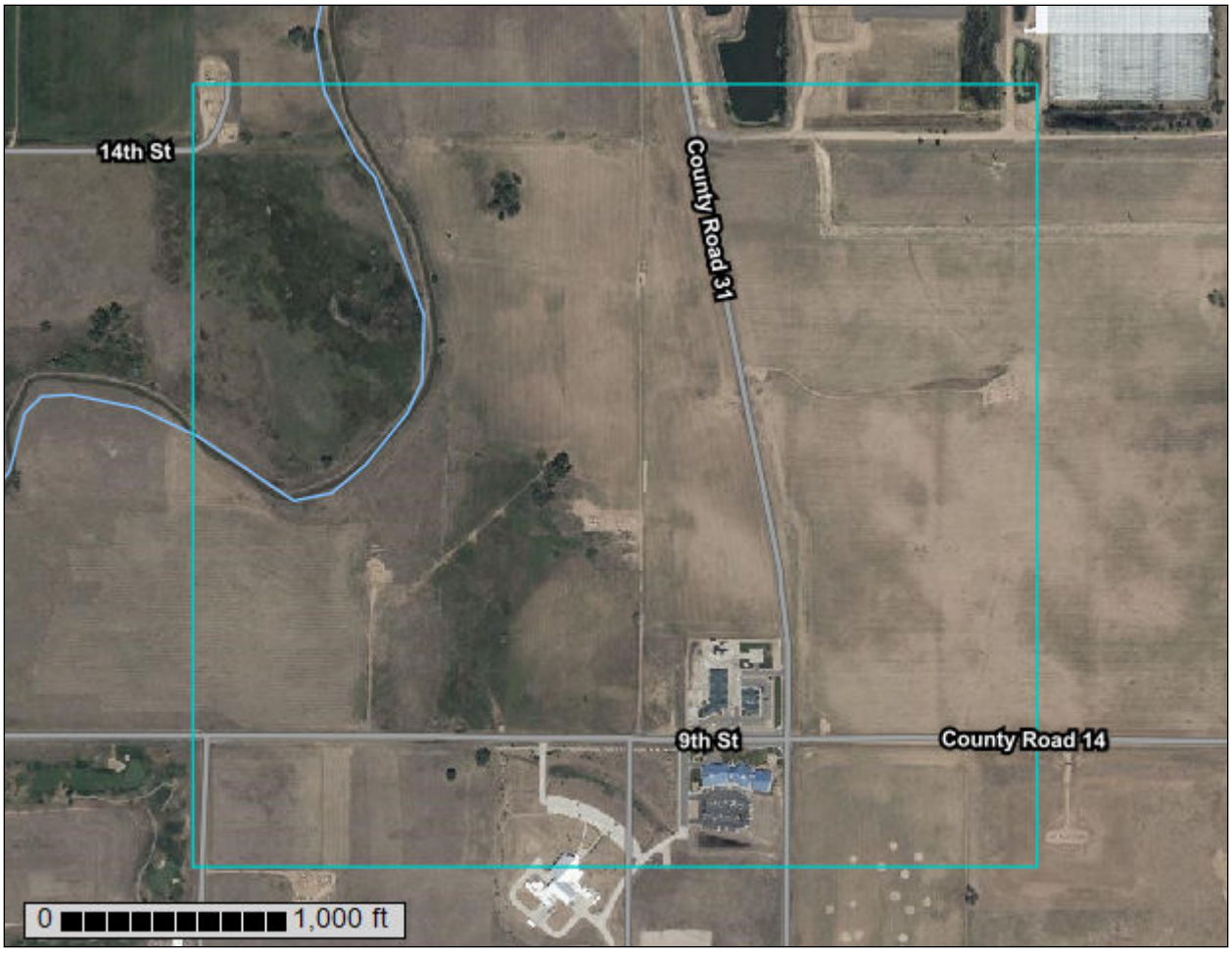
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Weld County, Colorado, Southern Part



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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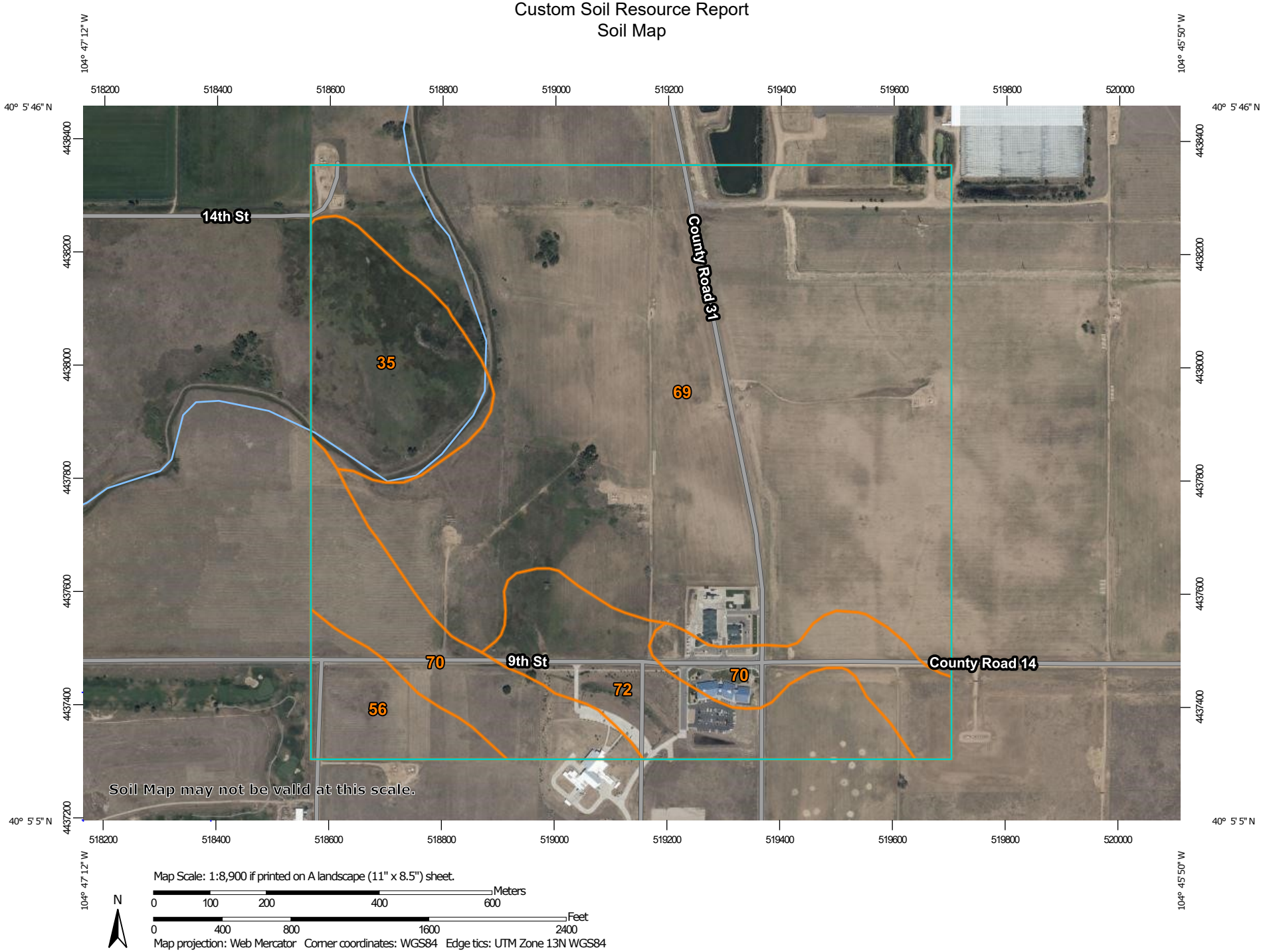
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56—Renohill clay loam, 0 to 3 percent slopes..... 11
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map



Map Scale: 1:8,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35	Loup-Boel loamy sands, 0 to 3 percent slopes	26.6	9.0%
56	Renohill clay loam, 0 to 3 percent slopes	11.8	4.0%
69	Valent sand, 0 to 3 percent slopes	192.8	65.1%
70	Valent sand, 3 to 9 percent slopes	37.7	12.7%
72	Vona loamy sand, 0 to 3 percent slopes	27.1	9.2%
Totals for Area of Interest		**296.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Weld County, Colorado, Southern Part

35—Loup-Boel loamy sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 362f
Elevation: 4,550 to 4,750 feet
Mean annual precipitation: 11 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 130 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Loup and similar soils: 55 percent
Boel and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loup

Setting

Landform: Swales, drainageways, streams
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

H1 - 0 to 16 inches: loamy sand
H2 - 16 to 40 inches: loamy sand
H3 - 40 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Ecological site: R067BY029CO - Sandy Meadow
Hydric soil rating: Yes

Description of Boel

Setting

Landform: Drainageways, streams, swales
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Stratified sandy alluvium

Typical profile
H1 - 0 to 14 inches: loamy sand
H2 - 14 to 60 inches: loamy sand

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups
Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A
Ecological site: R067BY029CO - Sandy Meadow
Hydric soil rating: No

Minor Components

Osgood
Percent of map unit: 5 percent
Hydric soil rating: No

Valent
Percent of map unit: 5 percent
Hydric soil rating: No

56—Renohill clay loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 3635
Elevation: 4,850 to 5,200 feet
Mean annual precipitation: 11 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Renohill and similar soils: 85 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Renohill

Setting

Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from shale

Typical profile

H1 - 0 to 9 inches: clay loam
H2 - 9 to 32 inches: clay loam
H3 - 32 to 36 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R067BY042CO - Clayey Plains
Hydric soil rating: No

Minor Components

Ulm

Percent of map unit: 10 percent
Hydric soil rating: No

Shingle

Percent of map unit: 5 percent
Hydric soil rating: No

69—Valent sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tczd
Elevation: 3,000 to 5,210 feet
Mean annual precipitation: 13 to 20 inches
Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 130 to 166 days
Farmland classification: Farmland of local importance

Map Unit Composition

Valent and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valent

Setting

Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Noncalcareous eolian sands

Typical profile

A - 0 to 5 inches: sand
AC - 5 to 12 inches: sand
C1 - 12 to 30 inches: sand
C2 - 30 to 80 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.1 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R067BY015CO - Deep Sand, R072XA021KS - Sands (North) (PE 16-20)
Hydric soil rating: No

Minor Components

Dailey

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY015CO - Deep Sand, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)

Hydric soil rating: No

Julesburg

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

Vona

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

70—Valent sand, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2tczf
Elevation: 3,050 to 5,150 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Valent and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valent

Setting

Landform: Dunes, hills
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Noncalcareous eolian sands

Typical profile

A - 0 to 5 inches: sand

AC - 5 to 12 inches: sand
C1 - 12 to 30 inches: sand
C2 - 30 to 80 inches: sand

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R072XY109KS - Rolling Sands, R067BY015CO - Deep Sand
Hydric soil rating: No

Minor Components

Dailey

Percent of map unit: 10 percent
Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY015CO - Deep Sand, R072XA021KS - Sands (North) (PE 16-20)
Hydric soil rating: No

Vona

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Head slope, nose slope, side slope, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY024CO - Sandy Plains, R072XA022KS - Sandy (North) Draft (April 2010) (PE 16-20)
Hydric soil rating: No

Haxtun

Percent of map unit: 5 percent
Landform: Interdunes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: R067BY024CO - Sandy Plains, R072XY111KS - Sandy Plains
Hydric soil rating: No

72—Vona loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 363r
Elevation: 4,600 to 5,200 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Farmland of local importance

Map Unit Composition

Vona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vona

Setting

Landform: Terraces, plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 6 inches: loamy sand
H2 - 6 to 28 inches: fine sandy loam
H3 - 28 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: R067BY024CO - Sandy Plains
Hydric soil rating: No

Minor Components

Remmit

Percent of map unit: 10 percent
Hydric soil rating: No

Valent

Percent of map unit: 5 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

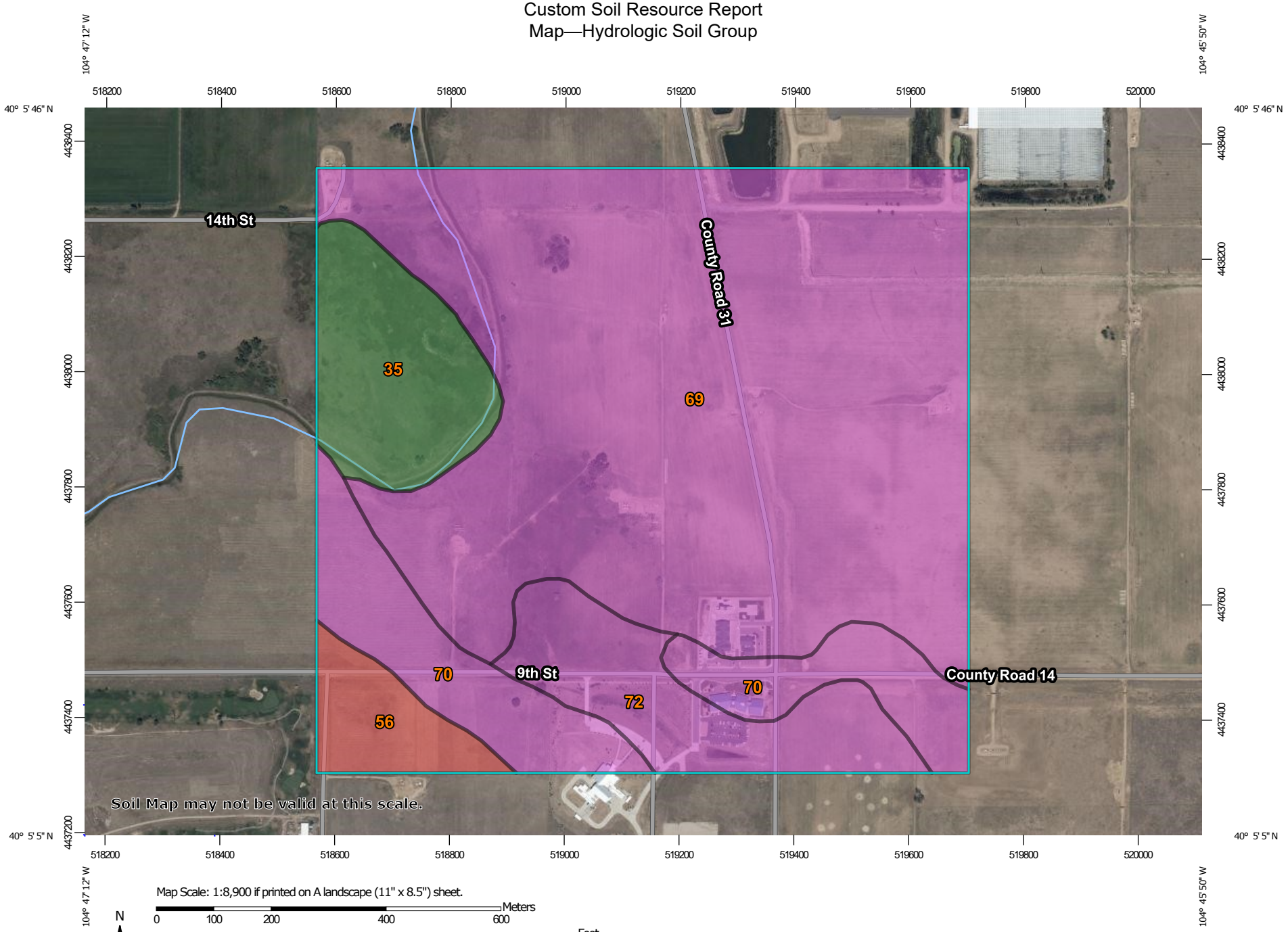
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35	Loup-Boel loamy sands, 0 to 3 percent slopes	A/D	26.6	9.0%
56	Renohill clay loam, 0 to 3 percent slopes	D	11.8	4.0%
69	Valent sand, 0 to 3 percent slopes	A	192.8	65.1%
70	Valent sand, 3 to 9 percent slopes	A	37.7	12.7%
72	Vona loamy sand, 0 to 3 percent slopes	A	27.1	9.2%
Totals for Area of Interest			**296.0**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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BLUE MOUNTAIN
Environmental Consulting LLC

December 5, 2018

Jim Righeimer
Arbor Capital Partners LLC
4040 MacArthur Blvd., Ste. 250
Newport Beach, CA 92660

RE: Ecological Characterization Study, Cottonwood Greens

Mr. Righeimer:

This report is submitted to provide a brief overview of ecological function of the subject property. Report content is reflective of plan guidance employed by the City of Fort Collins and developed through conversations with Todd Hodges (Planning Director) and Alyssa Knutson (Planner) with the Fort Lupton Planning Department. Chris Mettenbrink, Colorado Parks and Wildlife District Wildlife Manager was also consulted regarding management recommendations and compliance.

The site was visited by Matt Tobler with Blue Mountain Environmental Consulting on November 28, 2018. A pedestrian survey of the entire property was conducted to evaluate ecological characteristics. A wetland associated with the south side of Fulton Ditch was delineated and flagged in accordance with U.S. Army Corps of Engineers' methodologies.

Feel free to contact me with any questions you may have.

Sincerely,
Matt Tobler

Natural Resource Specialist, Certified Ecologist
Blue Mountain Environmental Consulting, LLC

Project Background

The project is located east of Fort Lupton, Colorado; it is situated between 9th Street and 14th Street on the west side of County Road 31 and south of the Fulton Ditch as illustrated on the maps provided in Appendix A. The property is undeveloped; the northeast portion is presently used to produce row crops while the remainder is fallow. Current and historical land uses include agriculture and grazing. There are access roads, oil and gas infrastructure and fences. Surrounding properties include a golf course to the south and residential, agricultural or vacant land in all other directions. The Fort Lupton Fire Station 2 is situated near the intersection of County Road 31 and 9th Street.

The proposed development entails the construction of 278 single-family homes, 150 townhomes and associated arterials as well as major and minor collector streets on the approximately 122.49-acre property. The Cottonwood Greens Concept Plan dated Fall 2018, prepared by the TB Group (here incorporated by reference), illustrates the proposed development. Site maps are provided in Appendix A; site photos are provided in Appendix B.

General Ecological Function

The property is situated on the eastern plains of Colorado between 4,981 and 4,776 feet of elevation. In the rain shadow of the Rocky Mountains, the region historically supported mixed prairies co-dominated by prairie sandreed (*Calamovilfa longifolia*), sand bluestem (*Andropogon hallii*), switchgrass (*Panicum virgatum*), Indian ricegrass (*Oryzopsis hymenoides*), western wheatgrass (*Agropyron smithii*), blue grama (*Bouteloua gracilis*) and a mix of other warm- and cool-season grasses and forbs. The predominant ecological site (a Natural Resource Conservation Service ascribed ecological description) is deep sand. “This plant community evolved with grazing by large herbivores and is well suited for grazing by domestic livestock” (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed on 12/3/2018).

Most regional lands have been converted to agricultural use; other regional land uses that have resulted in habitat loss and fragmentation include residential development, oil, gas, water and transportation infrastructure development and recreational use.

Soils are friable and therefore, when left fallow, provide habitat for a wide variety of burrowing animals and associated predatory species. According to the Natural Resource Conservation Service Web Soil Survey, approximately 58% of the soils at the property are ‘Soils of Local Importance,’ 27% are ‘Prime if Irrigated’ and 6% are soils of ‘Statewide Importance.’

Vegetation

The northeastern portion of the property is planted to winter wheat. The majority of the western portion is a fallow field which contains an abandoned prairie dog town and now supports early seral and exotic vegetation. The Fulton Ditch, which meanders along the northern property

boundary, provides a degree of connectivity to adjoining lands and supports robust communities of native vegetation including small trees, shrubs, grasses and sedges.

The fallow field and abandoned prairie dog town was dominated by Russian thistle (*Salsola tragus*), kochia (*Bassia scoparia*), yellow sweet clover (*Melilotus officinalis*) and prickly lettuce (*Lactuca serriola*). Other observed species within this community and along the edges of fields include sand sage (*Artemisia filifolia*), prairie sunflower (*Helianthus petiolaris*), pepperweed (*Lepidium* sp.), musk thistle (*Carduus nutans*), plains prickly pear (*Opuntia polyacantha*), Scotch thistle (*Onopordum acanthium*), horseweed (*Conyza* sp.), ragweed (*Ambrosia* sp.), yellow salsify (*Tragopogon dubius*), smooth brome (*Bromus inermis*), cheatgrass (*Bromus tectorum*), western wheatgrass, lovegrass (*Eragrostis cilianensis*), little bluestem (*Schizachyrium scoparium*), saltgrass (*Distychlis spicata*), blue grama and intermediate wheatgrass (*Thinopyrum intermedium*).

The riparian corridor associated with Fulton Ditch is dominated by reed canarygrass (*Phalaris arundinacea*) and sedge (*Carex spp.*). A few Siberian elm (*Ulmus pumila*) and peachleaf willow (*Salix amygdaloides*) trees were observed, wild rose (*Rosa* sp.) was also present but not abundant. Other prominent herbaceous common species include milkweed (*Asclepias* sp.), dock (*Rumex* sp.), Canada thistle (*Cirsium arvense*), cattail (*Typha* sp.) and a variety of sedge.

Noxious species include Scotch thistle and Canada thistle.

Wetlands

Herbaceous wetland and open water areas found on the property are associated with the Fulton Ditch. A narrow wetland band approximately two to five feet wide occurs on each side of Fulton Ditch. The herbaceous wetland area on the southern side of the ditch was delineated with red pin flags in accordance with the Regional Supplement to the Army Corps of Engineers' Wetland Delineation Manual: Great Plains Region (Version 2.0). The open water width of this active irrigation ditch is approximately 8 feet. The Ditch was not flowing at the time of delineation. These wetland and open water areas are likely considered "Waters of the United States" and subject to regulation if impacted. No other wetland or open water areas other than those directly associated with the Fulton Ditch were found on the property.

Wetland vegetation was demonstrated with the Dominance Test. Dominant hydrophytic species include reed canarygrass, three square (*Schenoplectus pugens*) and sedge (*Carex* spp.). Hydric soils were demonstrated via Depleted Matrix (F3) and hydrology was demonstrated by Geomorphic Position, FAC-Neutral Test and Oxidized Rhizospheres. The transition to upland status was marked by a break in topography and shift in dominance to smooth brome and other upland species. (Wetland data forms are available upon request.)

This wetland is identified as Riverine on the National Wetland Inventory (NWI) Map provided in Appendix A. The approximate location of the southern boundary of this wetland is indicated on the Wetlands Map provided in Appendix A.

Flood Zone

According to the FEMA Flood Map Service Center (https://msc.fema.gov/portal/home acessed on November 30, 2018), the property occurs on Map Panel (08123C2104E) and is designated as an 'area of minimal flood hazard'. Likewise, it is not listed as a flood hazard on the Weld County Property Portal https://www.co.weld.co.us/maps/propertyportal/ accessed on November 30, 2018.

2.2 Wildlife

The Natural Diversity Information Source (NDIS 2010) identified 61 mammal, 297 bird, 23 reptile, eight amphibian and 38 furbearer and game species occurring within Weld County (a comprehensive species list is provided in Appendix E). Although heavily disturbed, the property is likely to provide habitat for a variety of mammals, birds and reptiles.

Small mammals such as deer mouse (*Peromyscus maniculatus*), meadow vole (*Microtus pennsylvanicus*), mountain cotton tail (*Sylvilagus nuttallii*) and white-tailed jackrabbit (*Lepus townsendii*) could utilize the property year round. Friable soils and abandoned prairie dog burrows provide abundant denning habitat. Predators and mesopredators expected to make use of the site include coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes fulva*), gray fox (*Urocyon cinereoargenteus*) and raccoon (*Procyon lotor*). Mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) are expected to occur on the property but forage value is limited due to the abundance of unpalatable exotic vegetation.

Raptors such as American kestrel (*Falco sparverius*), redtail hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), upland game birds such as ring neck pheasant (*Phasianus colchicus*) and a great variety of passerine migrants are expected to make use of the property.

Wildlife Movement Corridors and Special Habitat Features

Significant habitat features on or near the property include Fulton Ditch, which provides seasonal water and habitat connectivity to surrounding lands, trees, shrubs and tall grasses associated with the Fulton Ditch that provide vertical structure, thermal cover, escape and nesting habitat and friable soils, which when left uncultivated, provide habitat for an array of borrowing animals and associated predatory species. Abandoned prairie dog burrows are being utilized by a variety of small and medium-sized mammals. Numerous large cottonwood trees were observed on adjoining lands; cottonwoods can accommodate cavity-nesting birds and provide perching habitat for raptors as well as a variety of other birds. Stick nests were not observed on adjoining properties. A review of the National Wetland Inventory map indicated that Fulton Ditch is mapped as a riverine wetland as previously discussed.

Federally listed Endangered or Threatened Species and State Species of Special Concern

The Information, Planning, and Consultation System (IPAC) (https://ecos.fws.gov/ipac/) was accessed to identify species that are threatened, endangered, candidates or proposed for listing and are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service and federally listed threatened and endangered species expected to be on or near the project area. Also identified are species that could be directly or indirectly affected by the activities at the project area.

Species identified by IPAC (exclusive of species that only need to be considered for water-related activities) include: Preble's meadow jumping mouse (*Zapus hundsonius preblei*), Colorado butterfly plant (*Guara neomexicana var. coloradoensis*) and Ute ladies'-tresses orchid (*Spiranthes diluvialis*). The property has potential habitat (areas of trees and shrubs in riparian areas) for Preble's meadow jumping mouse along Fulton Ditch. The property also has potential habitat (wetlands and floodplains) for Ute lady's tresses orchid and Colorado butterfly plant along Fulton Ditch.

Birds protected under the Migratory Bird Treaty Act and the Golden Eagle Protection Act with potential to utilize the property includes the bald eagle (*Haliaeetus leucocephalus*) and lesser yellowlegs (*Tringa flavipes*). Habitat value for bald eagles and lesser yellowlegs is likely to be low. No raptors or stick nests were observed on or near the property.

Habitat for burrowing owl (*Athene cunicularia*), a Colorado State Threatened species, does exist because there is an abandoned prairie dog town. This owl uses burrows for nesting and raising young.

Mitigation Measures

Blue Mountain Environmental Consulting recommends the following mitigation:

- Comply with Section 404 of the Clean Water Act by obtaining Army Corps of Engineer permits if wetlands are to be disturbed by site activities.
- Retain a minimum 50-foot buffer between wetlands associated with Fulton Ditch and developments so that Fulton Ditch may continue to be utilized as a wildlife movement corridor.
- Undertake 'formal consultation' with the U.S. Fish and Wildlife Service to ensure that the project remains in compliance with the Endangered Species Act.
- Under the Migratory Bird Treaty Act of 1918, it is unlawful for anyone to take, possess, import, export, transport, sell, purchase, barter or offer for sale, purchase or barter, any migratory bird or the parts, nests or eggs. Avoid removing trees between March 15 and August 15. Surveys for ground nesting birds should be conducted for site activities that

occur within this timeframe.

- Cultivate the fallow field to destroy and all abandoned prairie dog burrows before March 15th so that burrowing owls cannot utilize burrows for nesting. Otherwise, a borrowing owl survey per Colorado Parks and Wildlife guidelines would need to be conducted for site disturbance that occur between March 15th and October 31st.
- Utilize native, xeric warm- and cool-season grasses and forbs to revegetate any disturbed soils and improve pollinator habitat.
- Incorporate deciduous and coniferous tree species into the final site plan where possible to provide thermal cover and vertical structure for wildlife; group trees where possible.
- Utilize semi permeable materials for hardened surfaces to reduce runoff and promote groundwater infiltration.

References

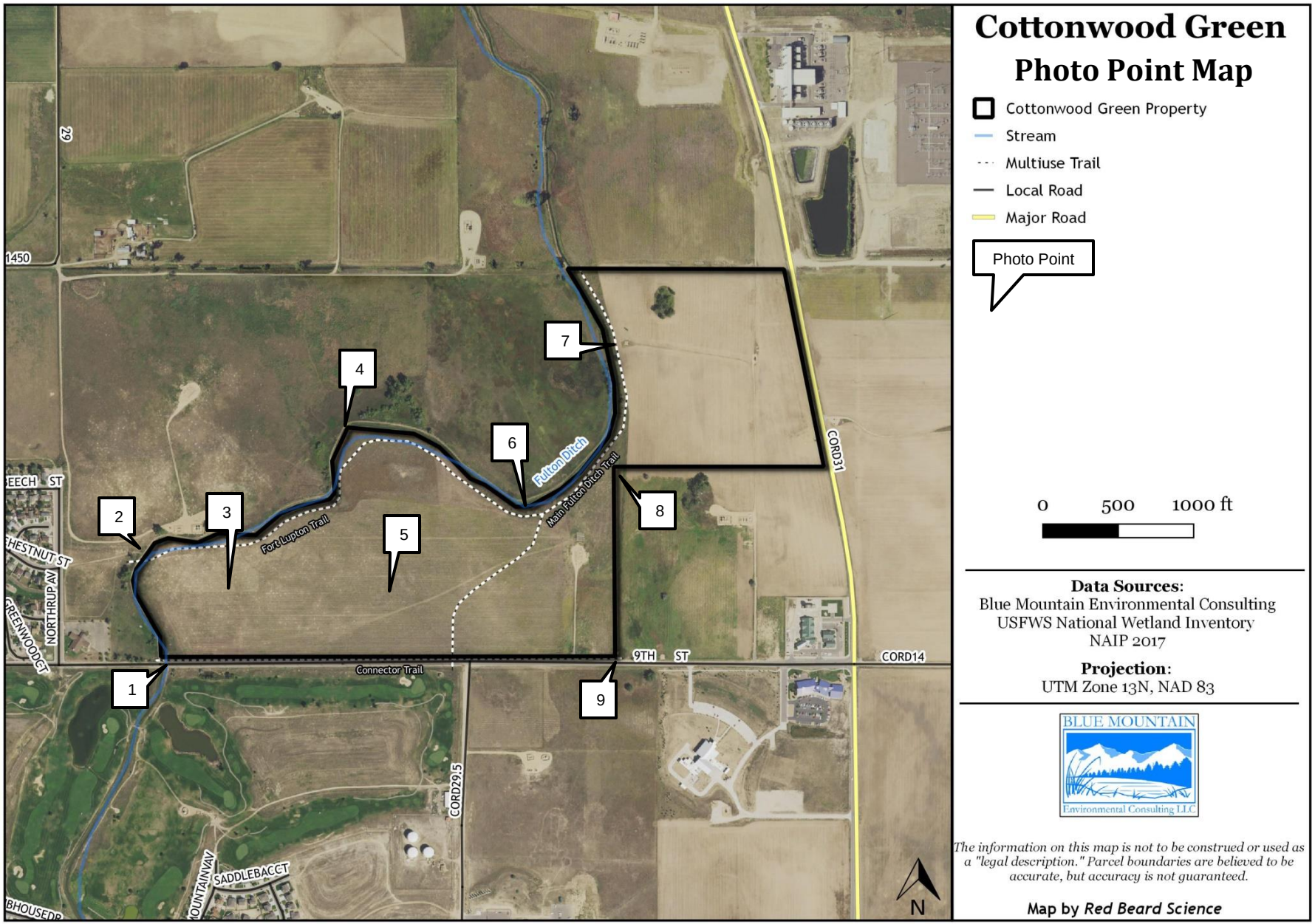
Natural Diversity Information Source (NDIS). 2010. Accessed on July 15, 2010. http://ndis.nrel.colostate.edu/wildlife.asp (Site no longer available)

National Wetland Inventory Mapper. Accessed on November 28, 2018, http://www.fws.gov/wetlands/Data/Mapper.html.

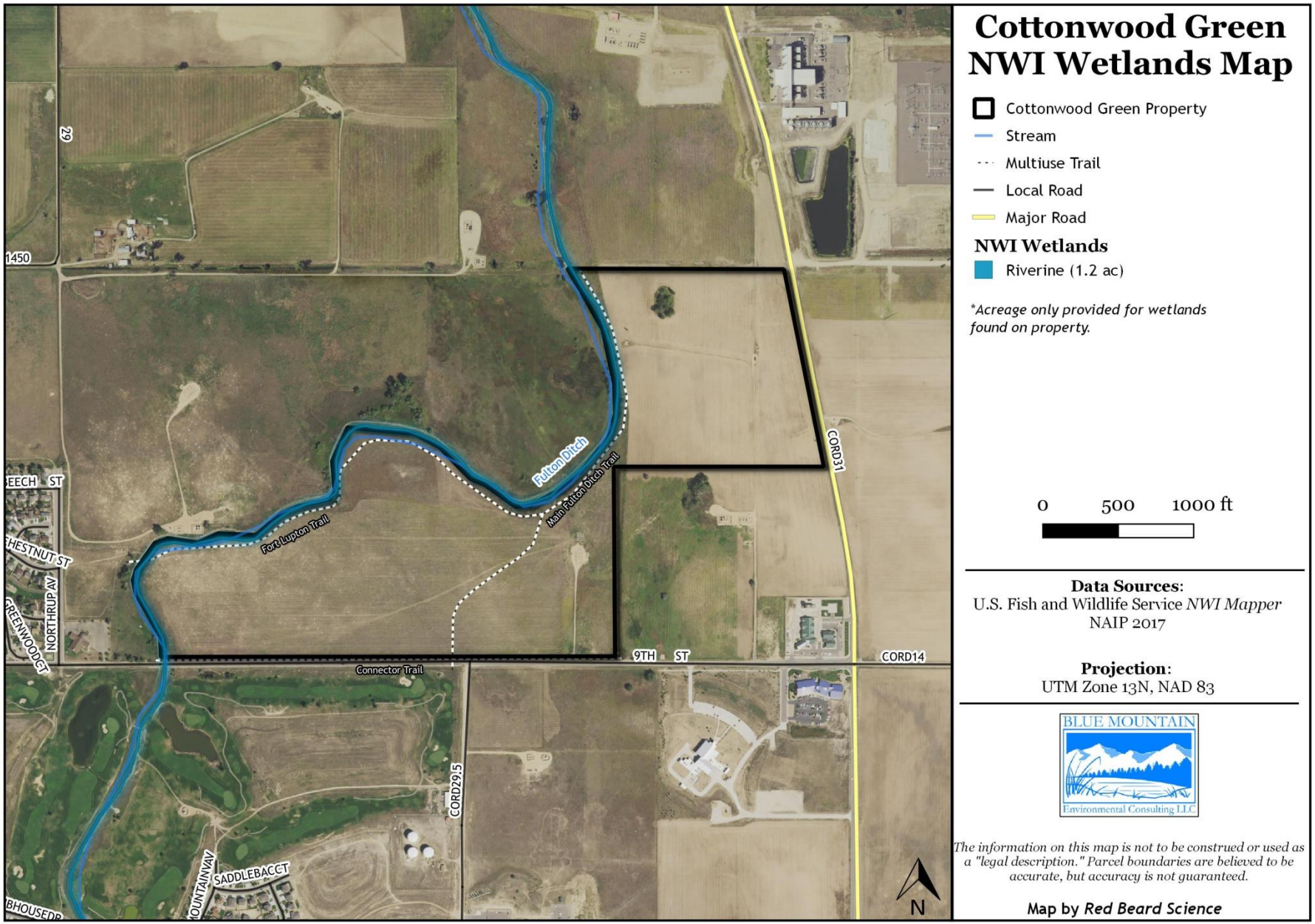
Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf).

Appendix A: Project Maps

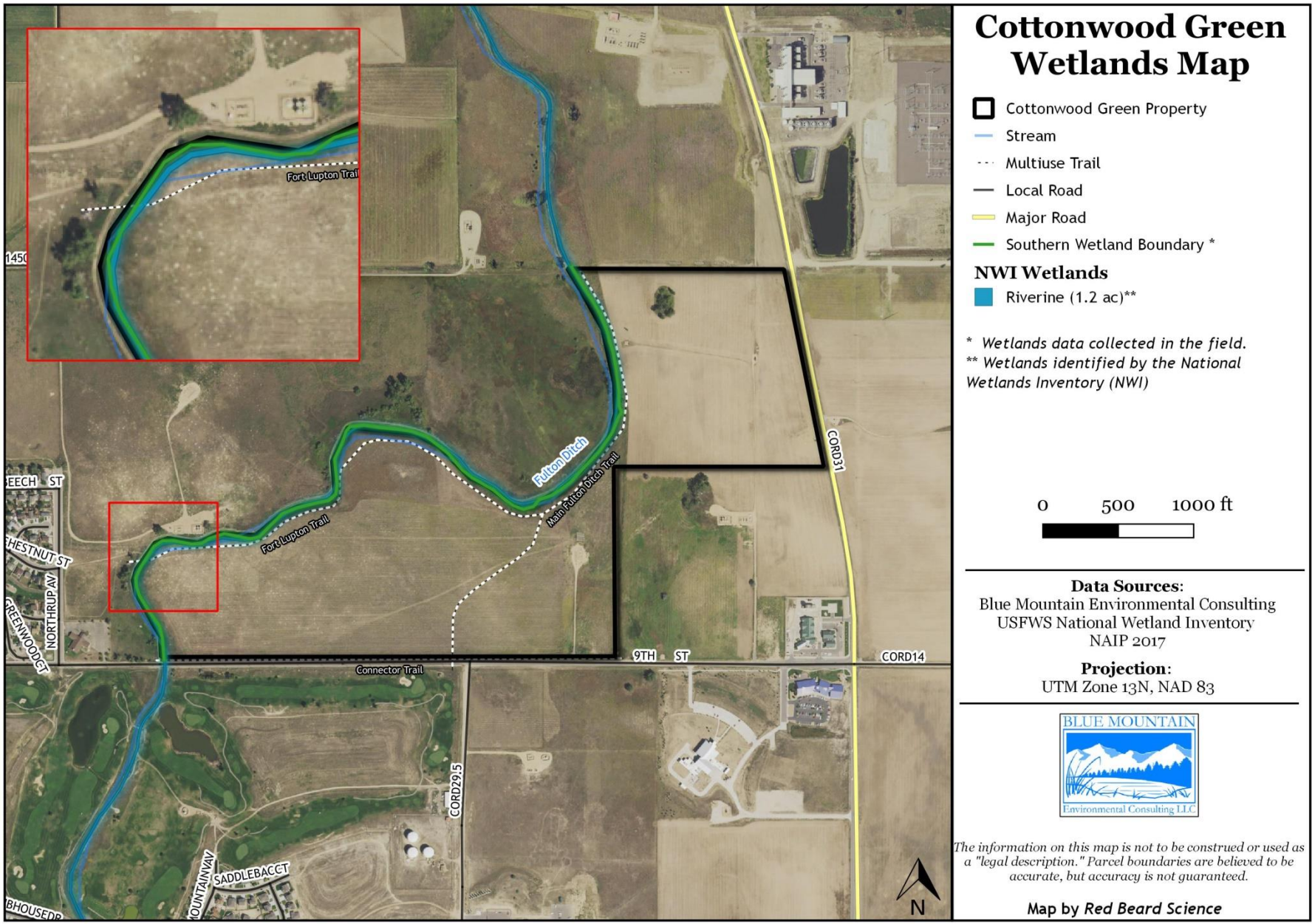
Photo Point Map



National Wetland Inventory Map



Wetlands Map



Appendix B: Site Photos

Map Number:	
1	
Photo Direction:	
North	

Looking north along Fulton Ditch from the southwest property corner.

Map Number:	
1	
Photo Direction:	
NE	

Looking northeast.

Map Number:	
1	
Photo Direction:	
East	
Looking east along 9th Street.	

Map Number:	
2	
Photo Direction:	
East	
Looking east from along Fulton Ditch; note oil and gas infrastructure on the adjoining property.	

Map Number:	
3	
Photo Direction:	
SE	

Looking southeast into the fallow field.

Map Number:	
2	
Photo Direction:	
South	

Looking south along Fulton Ditch; note the cottonwood trees on adjoining property.

Map Number:	
3	
Photo Direction:	
North	

Looking north from within the abandoned prairie dog town; note the absence of recent soil disturbance.

Map Number:	
4	
Photo Direction:	
East	

Looking east along the Fulton Ditch; note the transition from wetland vegetation to upland vegetation (red line).

Map Number:	
4	
Photo Direction:	
South	
Looking south into the fallow field and abandoned prairie dog town.	

Map Number:	
4	
Photo Direction:	
West	
Looking west.	

Map Number:	
5	
Photo Direction:	
North	

Looking north from within the fallow field and abandoned prairie dog town.

Map Number:	
5	
Photo Direction:	
East	

Looking east.

Map Number:	
5	
Photo Direction:	
South	
Looking south.	

Map Number:	
5	
Photo Direction:	
West	
Looking west.	

Map Number:	
6	
Photo Direction:	
East	

Looking east from along Fulton Ditch; note the transition from wetland to upland vegetation (red line).

Map Number:	
6	
Photo Direction:	
South	

Looking south.

Map Number:	
6	
Photo Direction:	
West	
Looking west.	

Map Number:	
7	
Photo Direction:	
East	
Looking east towards CR 31 across the winter wheat field; note oil and gas infrastructure.	

Map Number:	
7	
Photo Direction:	
South	

Looking south along the border between the winter wheat field and Fulton Ditch (at right).

Map Number:	
8	
Photo Direction:	
North	

Looking north towards trees near point 7.

Map Number:	
8	
Photo Direction:	
NE	

Looking northeast towards the northeastern property corner and CR 31.

Map Number:	
8	
Photo Direction:	
East	

Looking east.

Map Number:	
9	
Photo Direction:	
North	

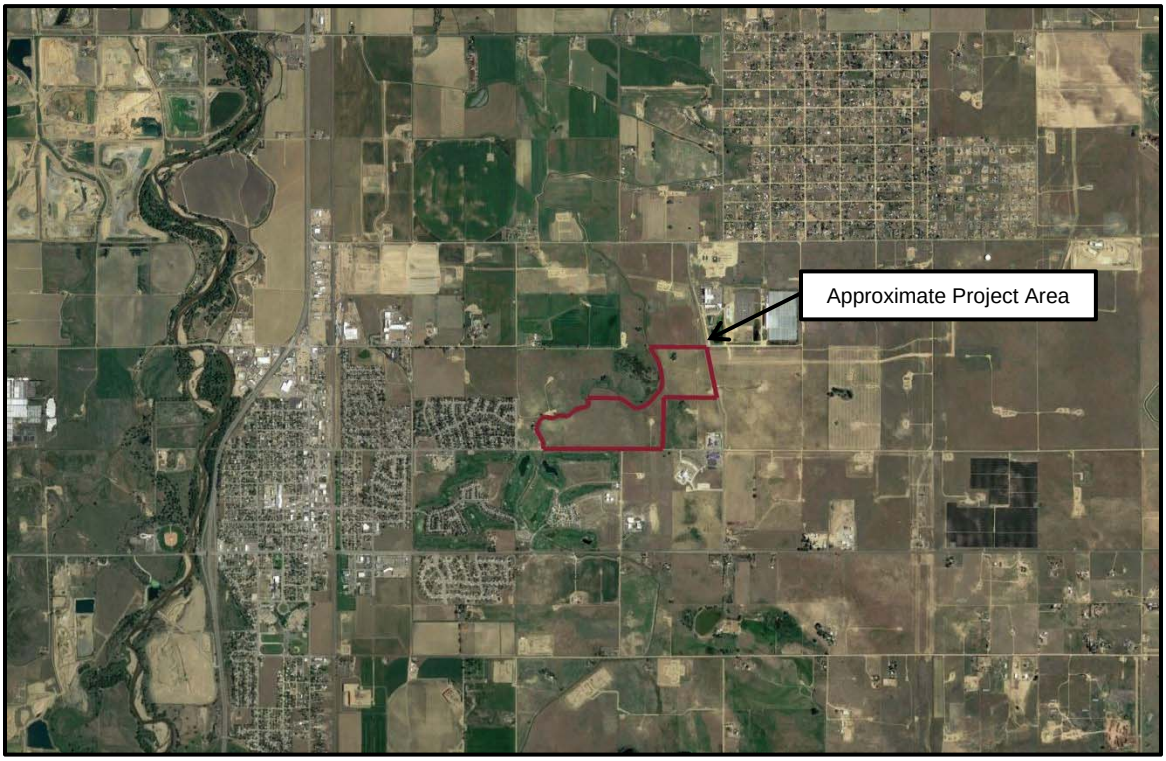
Looking north from a property corner along 9th street; note the stock tank and perimeter fence.

Map Number:	
9	
Photo Direction:	
West	

Looking west along 9th Street.

GROUND
ENGINEERING

Preliminary Geotechnical Evaluation
Cottonwood Greens
Fort Lupton, Colorado



Prepared For:

Arbor Capital Partners, LLC

In care of

Land Asset Strategies of Colorado, LLC

4040 MacArthur Drive, Suite 250
Newport Beach, California 92660

Attention: Mr. Lee Lowrey

Job Number 18-3062 **November 15, 2018**

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PURPOSE AND SCOPE OF STUDY

This report presents the results of a preliminary geotechnical evaluation performed by GROUND Engineering Consultants, Inc. (GROUND) to provide in support of planning of the proposed Cottonwood Greens development to be located north of 9th Street and County Road 20 1/2 Fort Lupton, Colorado. Our study was conducted in general accordance with GROUND's Proposal No. 1810-1800, dated October 8, 2018 and associated contract documents.

Field and office studies provided information obtained at the test hole locations regarding surface and subsurface conditions, including the existing site vicinity improvements. Material samples retrieved during the subsurface exploration were tested in our laboratory to assess the engineering characteristics of the site earth materials, and assist in our geotechnical analysis. Results of the field, office, and laboratory studies are presented below.

This report has been prepared to summarize the data obtained and to present our preliminary findings and conclusions based on the proposed development and the subsurface conditions encountered.

The information presented in this report is preliminary, and is not sufficient for final design of buildings or pavements or for assessing depths of remedial earthwork, etc. Additional structure-specific subsurface exploration and testing should be performed in support of development of geotechnical parameters for project design.

PLANNED DEVELOPMENT

We understand that nature of the development has not yet been determined, and that commercial, residential, and mixed-use developments are being considered for the property. Supporting infrastructure, including roadways and underground utilities, likely will be constructed as well. We anticipate that structural loads likely will be low to moderate, typical of this type of development. Additionally, we anticipate that relatively small to moderate cuts and fills, on the order of 5 to 10 feet, may be required to achieve final lines and grades across the site.

If the proposed development differs significantly from that described above, GROUND should be notified to re-evaluate the conclusions and parameters contained herein.

SITE CONDITIONS



At the time of our subsurface exploration program, the site was a largely undeveloped lot that appeared to have been previously used for agriculture and scattered oil and gas production. The site was bordered Fulton Ditch to the west and north, County Road 31 to the east, undeveloped land to the east and south, and 9th Street to the south. Additional undeveloped and agricultural land, commercial development, and single-family residences further surrounded the site.



The project site was largely covered with native grasses, weeds, and other relatively small vegetation. Large, mature trees also were observed at various locations on the project site. The project site generally sloped gently to moderately to the north and west and displayed about 20 feet of relief across the project site.

INITIAL SUBSURFACE EXPLORATION

Subsurface exploration for the project was conducted in October and November of 2018. A total of 10 test holes were drilled using a conventional truck-mounted, drilling rig and a conventional track-mounted drilling rig advancing continuous flight auger equipment to depths of about 23 to 36 feet below existing grades with the limits of the proposed development. Test holes were advanced to their termination depths to evaluate the subsurface conditions as well as to retrieve samples for laboratory testing and analysis. A GROUND engineer directed the subsurface exploration, logged the test holes in the field, and prepared the samples for transport to our laboratory.

Samples of the subsurface materials were retrieved with a 2-inch I.D. California liner sampler. The samplers were driven into the substrata with blows from a 140-pound hammer falling 30 inches, a procedure similar to the Standard Penetration Test described by ASTM Method D1586. Penetration resistance values, when properly evaluated, indicate the relative density or consistency of soils. Depths at which the soil samples were obtained and associated penetration resistance values are shown on the test hole logs.

The approximate locations of the test holes are shown in Figure 1. Logs of the test holes are presented in Figures 2 and 3. Explanatory notes and a legend are provided in Figure 4.

LABORATORY TESTING

Samples retrieved from our test holes were examined and visually classified in the laboratory by the project engineer. Laboratory testing of soil samples included standard property tests, such as natural moisture contents, dry unit weights, grain size analyses, and Atterberg limits. Swell–consolidation, water soluble sulfate, and a suite of corrosivity tests were performed on select samples as well. Laboratory tests were performed in general accordance with applicable ASTM protocols. Results of the preliminary laboratory testing program are summarized in Table 1 and Table 2.

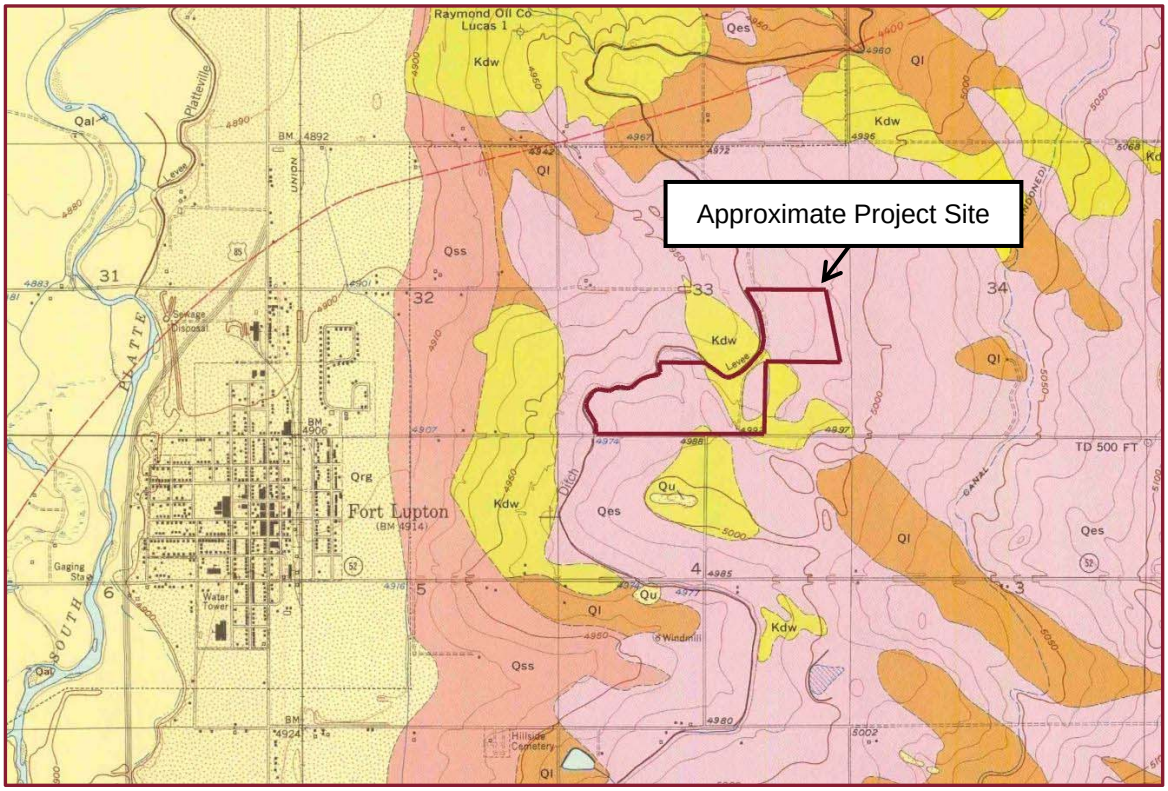
SUBSURFACE CONDITIONS

Site Geology Published geologic maps, e.g., Soister (1965),[1] depict the site as underlain by Holocene Eolian Sand (**Qes**) and by the Upper Cretaceous Dawson Formation (**Kdw**). Alluvial deposits are also mapped in the project area. A portion of the Soister (1965) map is reproduced below.

In the project area, eolian, wind-blown, deposits typically consists of fine to medium sands and silts with varying fractions of clays. Weathering typically increase the clay content of these deposits. Eolian deposits, such as loess, can be susceptible to hydro-consolidation ('collaspe') when loaded and wetted.

[1] Soister, P.E., 1965, *Geologic map of the Fort Lupton quadrangle, Weld and Adams Counties, Colorado*: U.S. Geological Survey, Geologic Quadrangle Map GQ-397, scale 1:24,000

Alluvial deposits, in the project area, generally consist of fine to coarse sands and gravels with varying fractions of silts and clays. Cobble and boulders are present locally as well.



The Dawson Formations, in the project area, typically consists of claystones, sandstones, and siltstone interbedded on various scales. The claystones typically are moderately to highly expansive and the formations include well-cemented beds that can be very hard and can be difficult to excavate.

Local Conditions In general, the test holes penetrated a thin layer of topsoil,[2] typically about 2 to 3 inches in thickness, before penetrating native sands and clays that extended to a depth of 4 to 11 feet below existing grades in the western portion of the site and 14 to 32 feet in the eastern portion of the site. Topsoil, generally was not encountered in the eastern portion of the site. Weathered claystone bedrock was encountered underlying the native sands and clays and extended to depths of 9 to 15 feet in the western portion of the site and 12 to 33 feet in the eastern portion fo the site.

[2] "Topsoil" as used herein is defined geotechnically. The materials so described may or may not be suitable for landscaping or as a growth medium for such plantings as may be proposed for the project.

Relatively unweathered claystone bedrock was encountered beneath the weathered claystone and extended to the depths explored.

We interpret the native sands clays to be heavily weathered eolian deposits with local alluvial deposits. We interpret the underlying bedrock materials to be Dawson Formation materials.

Fill materials were not recognized in the test holes but could likely present elsewhere at the site. However, the delineation of the complete lateral and vertical extents of the fills at the site, and their composition, was beyond our present scope of services. If detailed fill soil compositions at the site are of significance, they should be evaluated using test pits.

Sands and Clays consisted of fine to coarse sands and clays with varying fractions of silts. They were slightly moist to wet, non- to highly plastic, and light brown to brown in color. Caliche and iron staining were encountered locally.

Weathered Claystone consisted of weathered claystone with local weathered siltstone and sandstone beds. They were very moist to wet, moderately to highly plastic, firm medium hard, and brown to gray in color. Iron staining and caliche were noted locally.

Claystone Bedrock consisted of claystone with local siltstone and sandstone beds. They were moist to wet, moderately to highly plastic, hard to very hard, and gray in color. Iron staining was noted locally.

Swell-Consolidation Testing of site materials indicated a consolidations of 3.8 percent and swells up to 4.1 upon wetting under surcharges equal to the approximate overburden loads.

Groundwater was encountered in the test holes at depths between 2½ feet to 7 feet in the eastern portion of the site (Test Holes 6, 7, 8, 9, and 10) at the time of drilling, and at a depth of 22 feet below existing grade in Test Hole 3 when measured approximately 1 day later. The test hole was backfilled in accordance with Code of Colorado Regulations (2 CCR 402-2). Groundwater levels can be expected to fluctuate, however, in response to annual and longer-term cycles of precipitation, irrigation, surface drainage, land use, and the development of transient, perched water conditions. At this site we anticipate that groundwater levels will tend to rise and fall with the Fulton Ditch stage. Additionally,

review of estimate of saturation of the lab samples did not indicate that the shallow site soils had been saturated recently in the western portion of the site.

GEOLOGIC HAZARDS

Expansive Soils Swelling clayey soils and bedrock change volume in response to changes in moisture content that can occur seasonally, or in response to changes in land use, including development. Expansion potentials vary with moisture contents, density, clay chemistry and mineralogy. The swell potential in any particular area can vary markedly both laterally and vertically due to the complex interbedding of the site soil and bedrock materials. Moisture changes also occur erratically, resulting in conditions that cannot always be predicted.

The shallow earth materials underlying the site generally consisted of sands and clays. The plasticity of the site soils ranged from slightly to highly plastic. A swell of approximately 4.1 percent was measured in a sample of site soils (See Table 1), and significant swells have been measured in similar soils and bedrock in the greater project area. Swelling soils beneath a building's foundation or other improvements can cause significant damage. Design-level geotechnical evaluations of individual building sites should include an assessment of the possible presence of swelling materials in the foundation soils, so that appropriate, remedial design and construction remediation methods can be implemented. Project planning should anticipate the use of mitigation efforts, such as remedial excavation and re-compaction of the expansive materials, for moderately swelling soils at relatively shallow depths.

Collapsible Soils Certain surficial deposits in the Colorado Front Range area, typically eolian (wind-blown) materials are known to be susceptible to local hydro-consolidation or "collapse." Hydro-consolidation consists of a significant volume loss due to re-structuring of the constituent grains of the soil to a more compact arrangement upon wetting.

The surficial soils at the project site are mapped as eolian deposits, and the native soils encountered in the test holes have been interpreted to be eolian deposits. Swell and consolidation testing performed on site materials yield consolidations up to 3.8 percent. These are significant consolidation potentials, and design level geotechnical evaluations of individual building sites should include an assessment of the possible presence of

collapsible materials in the foundation soils, so that appropriate remedial design and construction can be implemented, where necessary.

Radon In general, testing for the possible presence of radon gas prior to project development does not yield useful results regarding the potential accumulation of radon in completed structures. Radon accumulations typically are found in basements or other enclosed portions of buildings built in areas underlain at relatively shallow depths by granitic crystalline rock. The likelihood of encountering radon in concentrations exceeding applicable health standards on the subject site, underlain by relatively deep soils and sedimentary bedrock, is significantly lower.

Radon testing should be performed in each building on-site, after construction is completed. Proper ventilation usually is sufficient to mitigate potential radon accumulations. Building designs should accommodate such ventilation for all building areas.

Seismic Activity / Faulting Neither site reconnaissance nor review of available geologic maps indicated the trace of an active or potentially active fault traversing or immediately adjacent to the site. Therefore, the likelihood of surface fault rupture at the site is considered to be relatively low.

The closest extent of a documented active fault to the site is the Rocky Mountain Arsenal Fault, which is located approximately 14 miles to the southwest (Kirkham and Rogers, 1981[3]; Colorado Geological Survey, 2008[4]). This fault is approximately 15 miles in length, trends generally northwest/southeast and is considered to be a right-lateral, strike-slip fault. The most recent significant seismic movements associated with the fault occurred in the 1960's, generating earthquakes up to magnitude 5.5. Research performed by the U.S. Geological Survey concluded that a strong correlation existed between the seismic activity of this fault and pressure injection of liquid waste into a disposal well located at the nearby Rocky Mountain Arsenal. Pressure injection in the disposal well was discontinued in 1966 and only minor seismic activity along the fault has been recorded since. The risk of this fault giving rise to damaging, earthquake-

[3] Kirkham, R.M., and W. P. Rogers, 1981, *Earthquake Potential in Colorado, A Preliminary Evaluation*, Colorado Geological Survey, Bulletin 43.
[4] Colorado Geological Survey, 2008, *Preliminary Quaternary Fault and Fold Database, and Map Server*, http://geosurvey.state.co.us/Default.aspx?tabid=453.

induced ground motions at the site is considered to be relatively low given the low previously recorded seismic magnitudes.

We anticipate that the western portion of the site could qualify as a Seismic Site Class C site, in accordance with 2015 IBC based on extrapolation of available data to depth. However, more information will be required to determine the Seismic Site Class, and that information may indicate that the site should classify as Seismic Site Class D. Similarly the eastern portion of the site will likely classify as Site Class D, but may classify as Site Class C once more information has been gathered. Compared with other regions of Colorado, recorded earthquake frequency in the project area is moderate.

Slope Stability and Erosion Colton and others (1975)[5], as well as larger scale geologic maps providing coverage of the site that were reviewed for this study, did not depict landslide deposits on or adjacent to the subject site.

The site is relatively gently to moderately sloping. During our preliminary reconnaissance of site area, no evidence was noted of mass-wasting processes associated with steep slopes, such as landslides, slumps, or unusual soil creep. Therefore, the likelihood of project developments being affected by existing large scale, unanticipated slope instabilities is considered low. Where significant cuts and fills are planned for the site the risk of slope instability may be increased, especially along the southern portion of the site. Therefore, constructed or modified slopes should be analyzed for stability, as appropriated.

Flooding The subject property abuts the Fulton Ditch to the north, but we assume that flow in that ditch will continue to be controlled. The nearest significant stream appears to be the South Platte River, approximately 1½ miles to the west of the site. Additionally, the subject parcel is mapped as Zone X by FEMA (2017),[6] which indicates a minimal risk of flooding. Significant fluctuation in the flow of streams can be expected during seasonal run periods and after large precipitation events.

The site and any proposed grade changes should be evaluated by a civil engineer with regard to flooding, however.

---

[5] Colton, R.B., J.A. Holligan, and L.W. Anderson, 1975, *Preliminary Map of Landslide Deposits, Denver 1° x 2° Quadrangle, Colorado*, U.S. Geological Survey, Miscellaneous Field Studies Map MF-705.

[6] Federal Emergency Management Administration, 2017, http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30 accessed on 11/01/2018.

Mining Activity and Subsidence Review of U.S. Geological Survey geologic maps covering the site Roberts, Hynes, and Woodward (2001)[7] and Turney and Murray-Williams (1983)[8] and other available, published maps depicting areas of coal extraction, did not indicate past mining activities near the subject parcel. Additionally, no mine shafts, adits, or other structures are depicted as being on the subject parcel, and were not observed on the subject site.

Considering the information above, the risk of surface subsidence associated with consolidation of former mine workings appears low. Further evaluation of former mine workings could be performed to evaluate this risk further and associated magnitudes of potential subsidence.

Published geologic maps do not indicate formations underlying the site at shallow depths that include evaporite (salt, gypsum, etc.) deposits, limestones, or other materials vulnerable to subsurface dissolution. Therefore, the likelihood of subsidence (associated with such rock formation; not coal mine related) or other hazards related to subsurface dissolution also appears to be low.

PRELIMINARY GEOTECHNICAL EVALUATION

Presented below are preliminary considerations and parameters regarding geotechnical aspects of the proposed development, which we have assumed will be relatively lightly loaded structures. The provided considerations and parameters are intended only to assist with preliminary project planning. Additional, structure-specific studies must be performed to develop design-level geotechnical considerations and parameters.

Geotechnical Risk The subsurface materials types encountered in the test holes are known to be susceptible to significant volume change in the project area. Additionally a swell of 4.1 percent and a consolidation of 3.8 percent were measured in the tested samples of site soils. Therefore, project planning should anticipate that mitigation measures for these conditions will be necessary. These conditions likely can be

[7] Roberts, S.B., Hynes, J.L., and Woodward, C.L., 2001, *Maps Showing the Extent of Mining, Locations of Mine Shafts, Adits, Air Shafts, Bedrock Faults, and Thickness of Overburden Above Abandoned Coal Mines in the Boulder-Weld Coal Field, Boulder, Weld, and Adams Counties, Colorado.* U.S. Geological Survey, Geological Investigations Series Map I-2735.

[8] Turney, J.E., Murray-Williams L., 1983, *Colorado Front Range Inactive Coal Mine Data and Subsidence, Adams County*, Colorado Geological Survey, Plate 12 of 12.

addressed by remedial earthwork unless movement tolerances of less than 1 inch are anticipated.

Relatively shallow groundwater was encountered in the eastern portion of the site and may complicated construction in that portion of the site, if remedial excavations are required or if below grade levels are added. Depending on the nature of the improvements, it may be beneficial to raise grades in portions of site.

Additional geotechnical evaluation should be performed the potential risks of swelling soils, collapsible soils, and shallow groundwater. Potential measures to address these risks are presented below, and GROUND is available to discuss these and other geotechnical considerations upon request.

Anticipated Foundation and Floor Systems In our opinion, it appears that shallow foundations and slab-on-grade floors will generally be appropriate for site construction provided they bear on a section of properly compacted fill soils. Where structures are more sensitive to movement and where post-construction movements less than 1 inch are desired, deep foundation systems and structural floor system will likely be required.

Deep Foundation Systems Deep foundation systems will need to bear in the bedrock underlying the site. We anticipate that both drilled pier and driven pile foundations will be geotechnically feasible. Drilled pier and driven pile lengths will depend on a variety of geotechnical and structural factors. We anticipate that pier lengths likely will be between 32 and 40 feet in the western portion of the site and 25 and 42 feet in the eastern portion of the site. Driven pile lengths, we anticipate, will be on the order of 15 to 25 feet in the western portion of the site and 20 to 38 feet below existing grade. Allowable end bearing pressures typically will be 30,000 psf or higher in bedrock. Estimated post-construction movements of a properly designed and installed deep foundation likely will be on the order of ½ inch or less.

Shallow Foundation Systems Where improvements are less sensitive to post-construction movement, we anticipate that shallow foundations bearing on a properly compacted, remedial fill section will be geotechnically feasible. Based on the information available and our experience in the project area, the remedial fill section may need to extend to a depth of 8 to 15 feet below existing grade. Due to the presence of shallow groundwater, the fill section likely can be reduced in the eastern portion of the

site. Allowable bearing pressures likely will range from 2,000 to 3,000 psf for properly compacted fill with anticipated post-construction movements of approximately 1 inch for a shallow foundation system bearing on a properly compacted fill section.

Structural Floors Where deep foundations are appropriate for a building, constructing the lowest level floor as a structural floor supported on deep foundations also will be appropriate, generally. Estimated post-construction movements of a properly designed and installed structural floor likely will be on the order of ½ inch or less. A structural floor should be constructed over a well-ventilated crawl space. Hanging the utilities beneath a building with a structural floor from that floor system (rather than installing them in the underlying soils) can limit differential structure / pipe movements on an expansive soil site.

Slab-on-grade Floors Similar to shallow foundation systems, conventional slab-on-grade concrete floors likely will need to bear on a section of properly compacted fill. Like shallow foundations, the remedial fill section may need to extend to a depth of 8 to 15 feet below existing grade. In our experience, estimates of post-construction floor movements bearing such soils will be on the order of 1 inch.

Flatwork It may be beneficial to support critical flatwork, such as flatwork at entrance and exits of buildings, on a fill section like that for a slab-on-grade floor to achieve similar performance. It may be beneficial to perform limited remedial earthwork beneath less critical flatwork fill, in order to reduce post-construction movements. Greater than typical flatwork maintenance, however, should be anticipated for this site.

Preliminary Water-Soluble Sulfates The concentrations of water-soluble sulfates measured in selected samples of site soils were 0.02 and 0.04 percent by weight (See Table 2). Such a concentration of soluble sulfates represents a **negligible** environment for sulfate attack on concrete exposed to these materials. Degrees of attack are based on the scale of 'negligible,' 'moderate,' 'severe' and 'very severe' as described in the "Design and Control of Concrete Mixtures," published by the Portland Cement Association (PCA). Based on these preliminary data, sulfate-resistant cement likely will not be necessary in project concrete. Additional testing for the presence of water-soluble sulfates should be performed as part of design-level geotechnical studies, however.

Preliminary Soil Corrosivity Data were obtained to support an initial assessment of the potential for corrosion of ferrous metals in contact with earth materials at the site, based on the conditions at the time of GROUND's evaluation. The test results are summarized in Table 2.

Reduction-Oxidation testing in selected samples indicated red-ox potentials of -130 and -95 millivolts. Such a low potential typically create a more corrosive environment.

Sulfide Reactivity testing indicated 'negative' and 'trace' results in the local soils. The presence of sulfides in the soils suggests a more corrosive environment.

Soil Resistivity In order to assess the "worst case" for mitigation planning, samples of materials retrieved from the test holes were tested for resistivity in the laboratory, after being saturated with water, rather than in the field. Resistivity also varies inversely with temperature. Therefore, the laboratory measurements were made at a controlled temperature. Measurement of electrical resistivity indicated values of approximately 2,054 and 3,122 ohm-centimeters in selected samples of site soils.

pH Where pH is less than 4.0, soil serves as an electrolyte; the pH range of about 6.5 to 7.5 indicates soil conditions that are optimum for sulfate reduction. In the pH range above 8.5, soils are generally high in dissolved salts, yielding a low soil resistivity.[9] Testing of a selected sample of site soils indicated pH values of about 8.2 and 8.7.

Preliminary Corrosivity Assessment Taken together, the above data suggest a severely corrosive site for ferrous metals. In our experience, however, the local clayey soils and claystones commonly represent a relatively severely corrosive environment. Additional, structure-specific corrosivity assessments should be performed for final design.

Surface and Subsurface Drainage Wetting of the bearing soils can lead to loss of support and greater than anticipated settlements on most sites. Project plans should include establishment and maintenance of effective drainage (both surface and subsurface). Raising grades and the use of granular fill soils (e.g., sands and gravels) appears to be beneficial in this regard.

Underdrains can be a beneficial part of the site drainage program, and given the shallow depths to groundwater, underdrains may be necessary to develop effective drainage

[9] American Water Works Association ANSI/AWWA C105/A21.5-05 Standard.

depending on final grades. Additionally, buildings with below-grade or partially below-grade levels should be provided with underdrains.

Preliminary Pavements Sections *The following initial or preliminary pavement sections are based on current grades and the shallow on-site soils. Final pavement design must be completed once final grades are established.*

Preliminary Pavement Thicknesses Pavement sections supported by the local soils likely will consist of 5 to 6 inches of asphalt (or an equivalent composite section) in parking areas and 5½ to 6½ inches of asphalt (or an equivalent composite section) in the driveways. Areas of heavy truck traffic such as trash collections zones, fire truck lanes, and shipping and receiving routes will likely require 6½ to 7½ inches of concrete pavement, placed over 6 inches of aggregate base course Other roads within the development may require thicker pavement sections, and can be better estimated once roadway classification and projected traffic are known.

Likely Remedial Earthwork Based on CDOT guidelines and the soil conditions encountered during this preliminary evaluation, the subgrade would need to be excavated to a depth of 2 to 3 feet or more (depending on plasticity index of soils / bedrock exposed near final surface grades), moisture-conditioned and replaced as properly re-compacted fill. Greater depths of subgrade preparation may be appropriate in some areas, however, due to the presence of collapsible and swelling native soils.

Subgrade preparation should extend the full width of the pavement from back-of-curb to back-of-curb. The subgrade for sidewalks and other project hardscaping also should be prepared in the same manner.

ADDITIONAL EXPLORATION REQUIREMENTS

The above data and conclusions are based on preliminary subsurface exploration only. Additional geotechnical studies should be performed to evaluate further the site for building-specific parameters and conclusions regarding foundation and floor system, final site grading, and pavement sections.

LIMITATIONS

This preliminary report has been prepared for Arbor Capital Partners, LLC as it pertains to planning of the proposed development of the subject site as described herein. It may not contain sufficient information for other parties or other purposes. If any information referred to herein is not well understood, then Arbor Capital Partners, LLC, or anyone using this report, should contact the author or a GROUND principal immediately. GROUND will be available to meet to discuss the risks and remedial approaches presented in this report, as well as other potential approaches, upon request.

The preliminary geotechnical conclusions in this report relied upon subsurface exploration at a limited number of exploration points, as shown in Figure 1, as well as the means and methods described herein. Subsurface conditions were interpolated between and extrapolated beyond these locations. It is not possible to guarantee the subsurface conditions are as indicated in this report. The conditions exposed during design-level evaluations may differ from those encountered during subsurface exploration for this study.

This report provides the findings of our preliminary geotechnical evaluation of the site. It does not include sufficient geotechnical information or parameters for final design of buildings or other improvements. Additional, structure-specific subsurface exploration and testing shall be performed to provide information for the project design.

This report was prepared in a manner consistent with that degree of care and skill ordinarily exercised by member of the same profession currently practicing under the same or similar circumstances. GROUND makes no warranties, either expressed or implied, as to the professional data, opinions, or conclusions contained herein.

Sincerely,

GROUND Engineering Consultants, Inc.

Ben Fellbaum, P.G.

Reviewed by Brian H. Reck, P.G., C.E.G., P.E.



GOOGLE EARTH AERIAL IMAGE (05/31/2018)

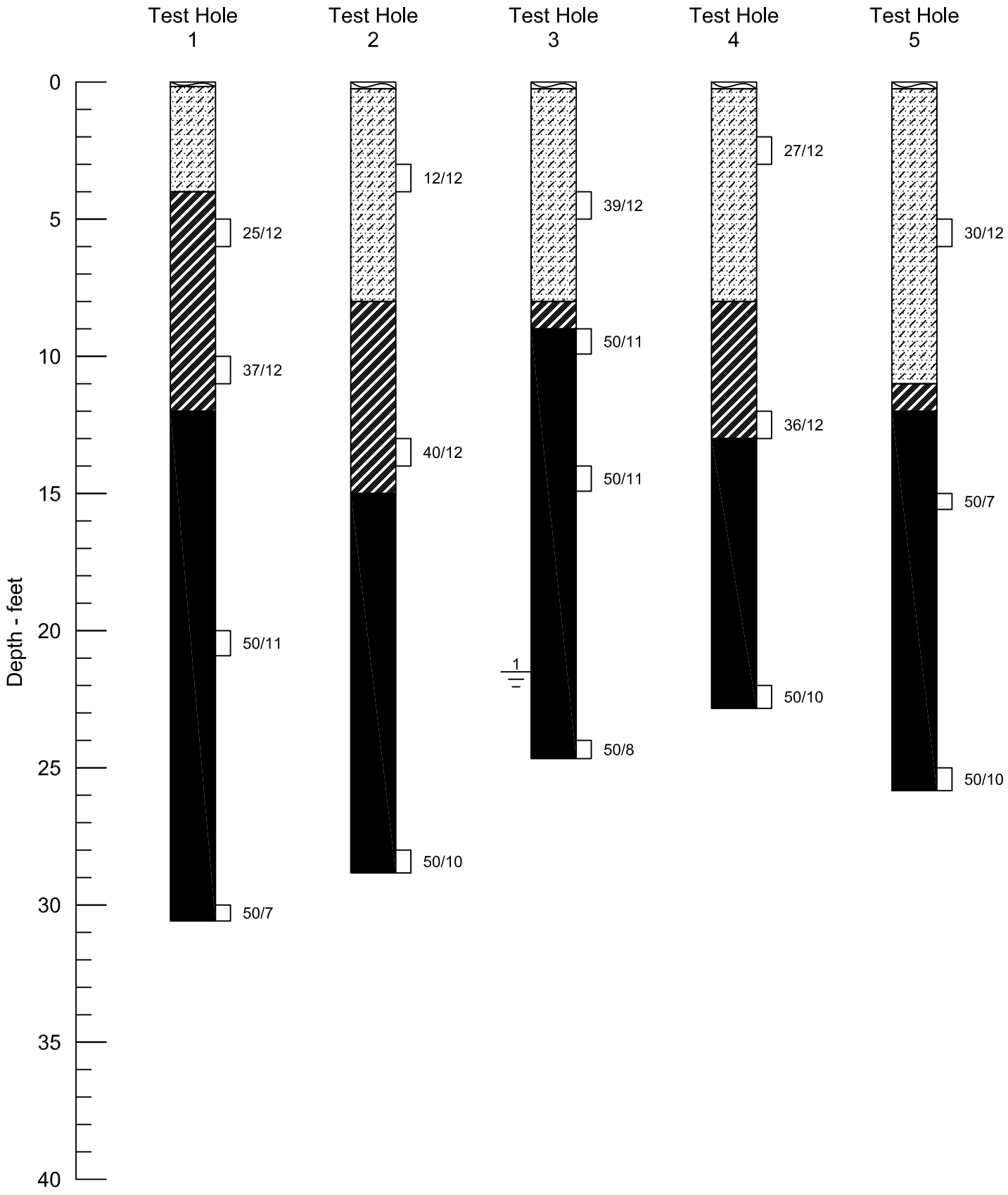
1
Indicates test hole number and approximate location.

(Not to Scale)

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LOCATION OF TEST HOLES

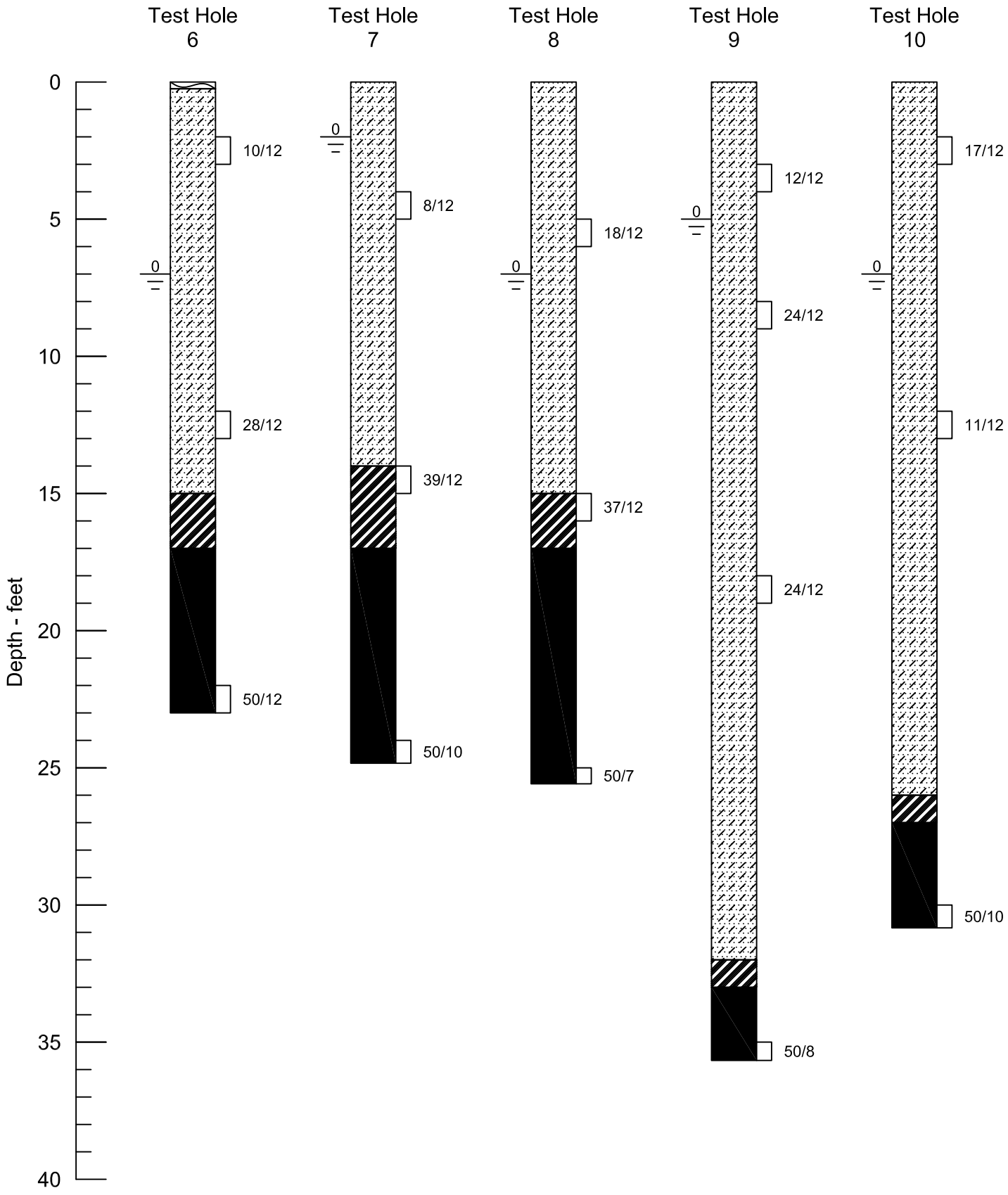
JOB NO.: 18-3062	FIGURE: 1
CADFILE NAME: 3062SITE.DWG	



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LOGS OF TEST HOLES

JOB NO.: 18-3062	FIGURE: 2
CADFILE NAME: 3062LOG01.DWG	



GROUND
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LOGS OF TEST HOLES

JOB NO.: 18-3062	FIGURE: 3
CADFILE NAME: 3062LOG02.DWG	

LEGEND:

Topsoil

Sands and Clays: Fine to coarse sands and clays with varying fractions of silts. They were slightly moist to wet, non- to highly plastic, and light brown to brown in color. Caliche and iron staining were encountered locally.

Weathered Claystone: Weathered claystone with local weathered siltstone and sandstone beds. They were very moist to wet, moderately to highly plastic, firm medium hard, and brown to gray in color. Iron staining and caliche were noted locally.

Claystone Bedrock: Claystone with local siltstone and sandstone beds. They were moist to wet, moderately to highly plastic, hard to very hard, and gray in color. Iron staining was noted locally.

Drive sample, 2-inch I.D. California liner sample

23/12 Drive sample blow count, indicates 23 blows of a 140-pound hammer falling 30 inches were required to drive the sampler 12 inches.

0 Depth to water level and number of days after drilling that measurement was taken.

NOTES:

1) Test holes were drilled on 10/23, 10/26, and 11/01/2018 with 4-inch diameter continuous flight augers.
2) Locations of the test holes were measured approximately by pacing from features shown on the site plan provided.
3) Elevations of the test holes were not measured and the logs of the test holes are drawn to depth.
4) The test hole locations and elevations should be considered accurate only to the degree implied by the method used.
5) The lines between materials shown on the test hole logs represent the approximate boundaries between material types and the transitions may be gradual.
6) Groundwater level readings shown on the logs were made at the time and under the conditions indicated. Fluctuations in the water level may occur with time.
7) The material descriptions on this legend are for general classification purposes only. See the full text of this report for descriptions of the site materials and related information.
8) All test holes were immediately backfilled upon completion of drilling, unless otherwise specified in this report.

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LEGEND AND NOTES

JOB NO.: 18-3062	FIGURE: 4
CADFILE NAME: 3062LEG.DWG	

Cottonwood Greens
Preliminary Evaluation

TABLE 1: SUMMARY OF LABORATORY TEST RESULTS

Sample Location		Natural	Natural	Gradation	Atterberg Limits		Swell/Consolidation		USCS	AASHTO	Sample Description
Test Hole No.	Depth (feet)	Moisture Content (%)	Dry Density (pcf)	Fines (%)	Liquid Limit	Plasticity Index	Volume Change (%)	Surcharge Pressure (psf)	Equivalent Classification	Equivalent Classification (Group Index)	
1	10	22.2	102.3	94.6	52	28	-	-	CH	A-7-6 (30)	Weathered CLAYSTONE
1	20	20.4	109	94.1	58	29	0.3	2500	CH	A-7-6 (32)	CLAYSTONE Bedrock
2	3	2.5	101.3	5.5	NV	NP	-3.8	400	SP-SM	A-2-4 (0)	SAND with Silt
3	4	7.4	108	59.9	24	6	-	-	s(CL-ML)	A-4 (1)	Sandy , Silty CLAY
3	24	16.8	113.8	95.9	59	35	0.1	3000	CH	A-7-6 (38)	CLAYSTONE Bedrock
4	12	24.2	92.4	97.7	75	44	4.1	500	CH	A-7-5 (52)	Weathered CLAYSTONE
5	5	16.7	114.6	64.7	37	16	-	-	s(CL)	A-6 (8)	Sandy CLAY
7	14	18.9	111.3	91	50	27	-	-	CH	A-7-6 (27)	Weathered CLAYSTONE
9	3	12.3	113.3	20.4	21	6	-	-	SC-SM	A-2-4 (0)	Silty, Clayey SAND
10	30	20.7	103.9	85.4	58	32	-	-	CH	A-7-6 (30)	CLAYSTONE Bedrock

*Negative indicates collapse, SD = Sample disturbed, NV = No value, NP = Non-plastic

Cottonwood Greens
Preliminary Evaluation

TABLE 2: SUMMARY OF SOIL CORROSION TEST RESULTS

Sample Location		Water Soluble Sulfates *(%)*	pH	Redox Potential *(mV)*	Sulfide Reactivity*	Resistivity *(ohm-cm)*	USCS Equivalent Classification	AASHTO Equivalent Classification (Group Index)	Sample Description
Test Hole No.	Depth *(feet)*								
1	10	0.02	8.7	-130	Negative	2,054	CH	A-7-6 (30)	Weathered CLAYSTONE
9	3	0.04	8.2	-95	Trace	3,122	SC-SM	A-2-4 (0)	Silty, Clayey SAND

CTL | THOMPSON INCORPORATED

PRELIMINARY GEOTECHNICAL INVESTIGATION
COTTONWOOD GREENS SUBDIVISION
ADDITIONAL 38-ACRE PARCEL
NORTHWEST OF 9TH STREET AND
COUNTY ROAD 31
FORT LUPTON, COLORADO

Prepared For:

ARBOR CAPITAL PARTNERS
c/o LAND ASSET STRATEGIES OF COLORADO, LLC
4040 MacArthur Boulevard, Suite 250
Newport Beach, California 92660

Attention: Don Guerra

Project No. DN50,350-115-R2

October 26, 2020

1971 West 12th Avenue | Denver, Colorado 80204 | Phone: 303-825-0777 | Fax: 303-825-4252

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SCOPE

This report presents the results of our Preliminary Geotechnical Investigation for an additional 38-acre parcel adjacent to the Cottonwood Greens Subdivision located northwest of 9th Street and County Road 31 in Fort Lupton, Colorado (Fig. 1). The purpose of our investigation was to evaluate the subsurface conditions to assist in due diligence and planning of site development and residential construction. The scope was described in a Contract Modification dated August 14, 2020 (DN 19-0637-CM1) .

This report is based on subsurface conditions found in exploratory borings, results of field and laboratory tests, engineering analysis of field and laboratory data, and our experience. The report contains descriptions of the soil, bedrock and groundwater found in the exploratory borings, site geology and geologic hazards, preliminary discussions of foundation and floor support alternatives, and preliminary design and construction criteria for site development, pavements, and surface and subsurface drainage. The discussions of foundation and floor system alternatives are intended for planning purposes only. Site-specific investigations will be necessary to design structures and improvements. A brief summary of our conclusions and recommendations follows, with more detailed discussion in the report.

SUMMARY OF CONCLUSIONS

1. We found no geologic hazards or geotechnical concerns which will preclude development of the site. The primary geotechnical concern is shallow groundwater.

2. Strata encountered in the borings consisted of 12 to 25 feet of sandy clay and slightly silty to clayey sand underlain in six borings by weathered and comparatively unweathered claystone bedrock. The clay and claystone are expansive and we judge the sand is non-expansive.

3. Groundwater was measured at depths of about 7 to 13.5 feet below existing grades, or approximate elevations 4969.5 to 4982 feet (Fig. 3). Groundwater will likely be encountered during deep utility installation. We recommend providing at least 3 feet, and preferably 5 feet of separation between groundwater and foundation excavations. Use of basement residences will likely be precluded for some areas of the site. Groundwater will fluctuate seasonally and may rise in response to irrigation, precipitation, land-use changes, and flow in Fulton Ditch.

4. We estimated total potential ground heave may range from less than 0.5 inch to about 2.5 inches considering a depth of wetting of 24 feet below existing grade. A majority of the heave estimates are less than 1 inch. Footing foundations and slab-on-grade basement floors will likely be suitable for a majority of the site.

5. Pavement subgrade will likely consist of primarily non-expansive sand. Sand is considered to have good to excellent pavement support characteristics. The Town of Fort Lupton requires full-depth asphalt pavement sections for all public streets. We anticipate a minimum section of 5 to 6 inches of asphalt for local streets and 7 inches for residential collectors. Thicker asphalt may be necessary where clayey sand or sandy clay subgrade is present. Subgrade investigations should be performed after site grading.

6. Control of surface and subsurface drainage will be critical to the performance of foundations, slabs-on-grade and pavements. Overall surface drainage should be designed to provide rapid run-off of surface water away from structures, pavements and flatwork.

SITE CONDITIONS

The 38-acre parcel is located northwest of 9th Street and County Road 31 in Fort Lupton, Colorado (Fig. 1 and Photo 1). The site is bordered by the proposed Cottonwood Greens Subdivision to the north and west, 9th Street to the south, and County Road 31 and a fire station to the east. The ground surface slopes gently to the north-northwest toward Fulton Ditch with overall relief of about 20 feet. Ground cover consists primarily of grasses, weeds, and crop remnants. Some scattered trees are also present. Multiple oil/gas wells are present in the northern portion. Review of historical aerial photos indicates the property has been used primarily as farmland.



Photo 1 – Google Earth© Aerial Site Photo, September 2019

PROPOSED DEVELOPMENT

Plans are not currently available, but we understand the parcel is being considered for residential development. We anticipate the development will include single-family and/or multi-family residences serviced by paved roadways and buried utilities. We assume the residences will consist of one or two-story, wood-framed structures with crawl spaces and/or basements. Cut and fill grading will likely be relatively minor (about 5 feet or less).

INVESTIGATION

We investigated subsurface conditions by drilling 9 widely-spaced exploratory borings at the locations shown on Fig. 1. The boring locations were established by a representative of our firm using a Leica GS18 GPS unit referencing the North American Datum of 1988 (NAVD88). We contacted the Utility Notification Center of Colora-

do and local sewer and water districts prior to drilling to clear drilling locations for conflicts with buried utilities. The borings were advanced to about 25 feet below the existing ground surface using 4-inch diameter, continuous-flight solid-stem auger and a truck-mounted CME-45 drill rig. Samples were obtained at 5 feet intervals using 2.5-inch diameter (O.D.) modified California barrel samplers driven by an automatic 140-pound hammer falling 30 inches. Our representative observed drilling, logged the strata encountered, and obtained samples. Summary logs of the exploratory borings are presented in Appendix A.

The samples were returned to our laboratory where they were examined by our engineer. Laboratory tests included dry density, moisture content, particles size analysis (gradation and percent passing the No. 200 sieve), Atterberg limits, swell-consolidation, and water-soluble sulfate concentration. Swell-consolidation tests were performed by wetting the samples under approximate overburden pressures (i.e. the pressure exerted by the overlying soil). Results of laboratory tests are presented in Appendix B.

SITE GEOLOGY AND GEOLOGIC HAZARDS

According to the Geologic Map of the Fort Lupton Quadrangle, Weld and Adams Counties (Soister, P.E.: Map GQ-397, 1965), the site is underlain by windblown deposits of clay, silt, and sand underlain by sedimentary bedrock of the lower portion of the Dawson formation. The soil includes expansive clay. The bedrock includes expansive claystone.

Site geology and geologic hazards were evaluated through review of geologic maps, field observations, conditions found in our exploratory borings, and our experience with similar projects. No geologic hazards were identified which would preclude development of this site. The hazards identified are:

- Shallow groundwater
- Expansive soil and bedrock, and
- Regional issues of seismicity and radioactivity.

These hazards can be mitigated with proper planning, engineering, design and construction.

Shallow Groundwater

Groundwater was measured at depths of about 10 feet or less below existing grades in a majority of the borings at the time of drilling. We recommend at least 3 feet, and preferably 5 feet of separation between foundation excavations and groundwater. Depending on site grading, shallow groundwater will likely preclude use of basement residences in some areas of the site. Where basements are within about 5 feet of groundwater, we advocate use of vapor retarders over a gravel layer below basement floor slabs. One alternative would be to plan non-basement residences in areas with shallow groundwater.

Shallow groundwater may also complicate site development such as utility installation. Contractors should be prepared to deal with wet soils, flat trench excavation slopes below groundwater, and temporary dewatering.

Expansive Soil and Bedrock

The clay and claystone bedrock encountered in our borings are expansive. There is risk that ground heave will damage pavements, slabs-on-grade and foundations. We judge the risk is relatively low since bedrock is comparatively deep across most of the site and is below groundwater. Engineered design of grading, pavements, foundations, slabs-on-grade, and surface drainage can mitigate, but not eliminate, the potential risk.

Seismicity

Based on available mapping, we found no active faults within or near the site. The soil and bedrock units are not expected to respond unusually to seismic activity. According to the International Residential Code (IRC) for seismic design, we believe the site classifies as Site Class D.

Radioactivity

It is normal in the Front Range of Colorado and nearby eastern plains to measure radon gas in poorly ventilated spaces in contact with soil or bedrock. Radon 222 gas is considered a health hazard and is just one of several radioactive products in the chain of the natural decay of uranium into lead. Radioactive nuclides are common in the soil and bedrock underlying the subject site. Because these sources exist or will exist on most sites in the area, there is a potential for radon gas accumulation in poorly ventilated spaces. The amount of soil gas that can accumulate is a function of many factors, including the radionuclide activity of the soil and bedrock, construction methods and materials, soil gas pathways, and accumulation areas. The only reliable method to determine if a hazard exists is to perform radon testing of completed structures to determine the level of radon gas accumulation. Typical mitigation methods consist of sealing soil gas entry areas and ventilation of below-grade spaces. We recommend provisions for ventilation of foundation drain systems if a radon problem is discovered.

Other Considerations

We observed no evidence of unstable slopes. Erosion potential on the site is considered low due to gentle slopes and existing vegetation. The potential will increase during construction but should return to pre-construction rates or less if proper grading practices, surface drainage design, and re-vegetation efforts are implement-

ed. We did not identify significant economically recoverable, high quality aggregate or rare earth materials in our borings.

SUBSURFACE CONDITIONS

Strata encountered in the borings consisted of 12 to 25 feet of sandy clay and slightly silty to clayey sand underlain in six borings by weathered and comparatively unweathered claystone bedrock. Pertinent engineering characteristics of the soil and bedrock are described in the following paragraphs.

Sand

At least 7 feet of sand was found from the ground surface in each boring. The sand was very loose to medium dense based on field penetration resistance test results. The looser consistencies generally coincided with the presence of groundwater. Eleven samples of slightly silty to silty sand contained 5 to 22 percent silt and clay-sized particles. Two samples of clayey sand contained 40 and 48 percent fines, with the former sample exhibiting low plasticity. We judge the sand is non-expansive.

Clay

About 3 to 10 feet of sandy, silty clay was encountered beneath the sand in four borings. The clay was very stiff. Moisture contents of samples tested ranged from 19.3 to 21.8 percent, with dry densities of 106 to 111 pounds per cubic foot (pcf). One sample did not swell and one sample swelled 0.6 percent when wetted. One sample contained 72 percent silt and clay-sized particles and exhibited moderate plasticity.

Bedrock

Weathered and comparatively unweathered claystone was encountered in six borings at depths of about 12 to 24 feet, or approximate elevations 4959 to 4975 feet (Fig. 2). Weathered zones were present in five borings and ranged in thickness from about 1 to 10 feet. The comparatively unweathered bedrock was medium hard to hard. Five claystone samples swelled 0.7 to 2.7 percent when wetted. A different claystone sample contained 85 percent silt and clay-sized particles and exhibited high plasticity.

Groundwater

Groundwater was encountered during drilling in each boring at depths of about 7 to 13.5 feet, or approximate elevations 4969.5 to 4982 feet (Fig. 3). When checked five days after drilling on September 23, 2020, the holes had been destroyed and a delayed groundwater measurement could not be obtained. Groundwater will likely be encountered during deep utility installation. We recommend providing at least 3 feet, and preferably 5 feet of separation between groundwater and foundation excavations. Use of basement residences will likely be precluded in some areas of the site. Groundwater will fluctuate seasonally and may rise in response to irrigation, precipitation, land-use changes, and flow in Fulton Ditch.

ESTIMATED POTENTIAL HEAVE

Based on the subsurface profiles, swell-consolidation test results and our experience, we estimated the potential heave at existing grade for each test hole as shown in the table below. A depth of wetting of 24 feet below existing grades was considered for the analysis. The estimates are conservative (high) because they assume full wetting and potential heave of material below groundwater. Due to widely spaced borings, variations from our estimates should be anticipated. It is not certain these movements will occur.

TABLE I
ESTIMATED POTENTIAL GROUND HEAVE
BASED ON 24-FEET DEPTH OF WETTING

Boring No.	Estimated Potential Heave at Existing Grade (inches)
TH-1	1.1
TH-2	<0.5
TH-3	<0.5
TH-4	0.5
TH-5	0.7
TH-6	1.8
TH-7	<0.5
TH-8	2.5
TH-9	<0.5

SITE DEVELOPMENT

The primary geotechnical concerns that we believe will influence development and building construction on this site are shallow groundwater and expansive soil and bedrock. These concerns can be mitigated with proper planning, engineering, design and construction. We believe there are no geologic or geotechnical constraints at this site that would preclude development. The following sections discuss site development recommendations.

Excavation

We believe the soil and bedrock penetrated by our exploratory borings can be excavated with typical heavy-duty equipment. Contractors should be familiar with applicable local, state and federal safety regulations, including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards. Based on our investigation and OSHA standards, we anticipate the sandy clay and bedrock may classify as Type B soil and the sand as Type C. Type B and

Type C soils require maximum slope inclinations of 1H:1V (horizontal to vertical) and 1.5H:1V for excavations in dry conditions, respectively. Flatter slopes will be necessary below groundwater. Contractors are required to identify the soils encountered in excavations and refer to OSHA standards to determine appropriate slopes. Excavations deeper than 20 feet should be designed by a professional engineer.

Dewatering

Groundwater may be encountered in utility excavations; temporary construction dewatering systems will probably be needed to properly install deep utilities for some areas of the site. We believe that dewatering for excavations which penetrate less than 3 to 5 feet below the groundwater surface may be accomplished using conventional sump and pump methods in utility trenches. Deeper excavations may require more elaborate dewatering (such as well points).

The Town of Fort Lupton and/or the Colorado Department of Public Health may require dewatering permits. Our experience indicates periodic environmental testing is usually required with these permits, with reporting. Permitting requirements may also influence the construction schedule.

Site Grading

The on-site soils free of vegetation are suitable for use as site grading fill. Fill should be placed in thin loose lifts (8-inches or less), and be moisture-conditioned and compacted prior to placement of the next lift. Clay fill should be moisture-conditioned between optimum and 3 percent above optimum moisture content and compacted to at least 95 percent of maximum standard Proctor dry density (ASTM D 698). Sand fill should be moisture-conditioned within 2 percent of optimum moisture content and compacted similarly. A representative of our firm should observe and test compaction of the fill during placement. Guidelines for site grading are presented in Appendix C.

Slopes

We recommend permanent cut and fill slopes be designed with a maximum slope of 3:1 (horizontal to vertical). Use of 4:1 slopes would be better to control erosion. If site constraints (property boundaries and streets) do not permit construction with recommended slopes, we should be contacted to evaluate the subsurface soils and steeper slopes.

Utilities

Water and sewer lines are usually constructed beneath paved roads. Compaction of trench backfill can have a significant effect on the life and serviceability of pavements. Trench backfill should be placed in thin, loose lifts (8 inches or less) and be moisture-conditioned and compacted as described in Site Grading. The placement and compaction of trench backfill should be observed and tested by a representative of our firm during construction.

Underdrain

With long-term development and subsequent irrigation, groundwater could rise. The water could lead to frequent pumping of foundation drains. Where basements are planned, we advocate use of underdrains incorporated into the design of sanitary sewer systems to provide a means to control water and allow gravity discharge from foundation drains. It may not be practical to use underdrains at this site if a gravity outlet is not available. Conceptual sewer underdrain details are provided on Figs. 4 through 6. If the underdrains discharge to a detention pond or drainage, the potential for backflow of water from the discharge point into the underdrain and building foundation drains should be evaluated.

Pavements

Pavement subgrade soils will likely consist of primarily non-expansive sand. Sand has good to excellent pavement support characteristics. The Town of Fort Lupton requires full-depth asphalt pavement sections for all public streets. We anticipate a minimum section of 5 to 6 inches of asphalt for local streets and 7 inches of asphalt for residential collectors. Thicker asphalt may be necessary where clayey sand or sandy clay subgrade is present. Subgrade investigation and pavement designs should be performed after grading is complete.

BUILDING CONSTRUCTION CONSIDERATIONS

The following discussions are preliminary and not intended for design or construction. After grading is completed, design-level investigations should be performed on a building-specific basis.

Foundations

Our investigation indicates predominately non-expansive sand is present at depths likely to influence performance of shallow foundations and slabs-on-grade. Expansive claystone bedrock is present, but is comparatively deep and below groundwater. Footing foundations appear suitable for a majority of the site. Post-tensioned slab-on-grade foundations may also be considered where basements are not planned. Design-level investigations will be necessary to design foundations.

Slab-On-Grade Construction

Structurally supported floors should be anticipated in all non-basement finished living space in residences unless post-tensioned slab-on-grade foundations are used. Slab-on-grade basement floors may be considered on low risk sites where

potential heave is acceptable to builders and home buyers. Based on the widely-spaced borings, low risk conditions appear to be present for a majority of the site.

The following precautions will be required to reduce the potential for damage due to movement of conventional slab-on-grade floors:

1. Isolation of the slabs from foundation walls, columns or other slab penetrations using a slip-joint;

2. Voiding of interior partition walls at the top or bottom to allow slab movement to occur without transferring movement to the structure; and

3. Flexible water and gas connections to allow for slab movement. A flexible plenum above slab-supported furnaces will be required.

Below-Grade Areas

Surface water can penetrate relatively permeable loose backfill soils located adjacent to structures and collect at the bottom of relatively impermeable excavations causing wet or moist conditions. Foundation drains will be necessary around basements. If basements are not used, drains should be planned around crawl spaces (if used). Foundation drains are not typically provided for post-tensioned slab-on-grade foundations. Foundation drains should ideally be connected to an underdrain system to provide a gravity outlet. The drains can be connected to a sump pit where water is removed by pumping if an underdrain is not provided. Below grade walls should be designed for lateral earth pressures where backfill is not present to the same extent on the inside and outside of the walls.

Surface Drainage

The performance of improvements will be influenced by surface drainage. When developing an overall drainage scheme, consideration should be given to drainage around each building. The ground surface around buildings should be

sloped to provide positive drainage away from the foundations. We typically recommend a slope of at least 10 percent for the first 10 feet surrounding residences with basements, where practical, and slopes of at least 5 percent around structures without basements. Where possible, drainage swales should slope at least 2 percent. Roof downspouts and other water collection systems should discharge well beyond the limits of backfill around structures.

Proper control of surface runoff is also important to control the erosion of surface soils. Concentrated sheet flow should not be directed over unprotected slopes. Water should not be allowed to pond at the crest of slopes. Permanent slopes should be prepared to reduce erosion.

Attention should be paid to compact the soils behind curb and gutter adjacent to streets and in utility trenches during development. If surface drainage between preliminary development and construction phases is neglected, performance of the roadways, flatwork and foundations may be poor.

Concrete

Concrete in contact with soil can be subject to sulfate attack. We measured a water-soluble sulfate concentration of 0.02 percent in one sample from this site. For this level of sulfate concentration, ACI 332-08 *Code Requirements for Residential Concrete* indicates there are no special requirements for sulfate resistance. We recommend additional testing during design-level investigations.

Superficial damage may occur to the exposed surfaces of highly permeable concrete, even though sulfate levels are relatively low. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious materials ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to surface drainage or shallow groundwater. Concrete should have a total air content of 6 percent ± 1.5 percent.

RECOMMENDED FUTURE INVESTIGATIONS

We recommend the following investigations and services:

1. Review of site and grading plans once available;
2. Construction testing and observation during site development, including compaction testing of grading fill, utility trench backfill, and pavements;
3. Subgrade investigation and pavement designs after grading;
4. Design-level soil investigations for structures; and
5. Foundation installation observations.

GEOTECHNICAL RISK

The concept of risk is an important aspect with any geotechnical evaluation primarily because the methods used to develop geotechnical recommendations do not comprise an exact science. We never have complete knowledge of subsurface conditions. Our analysis must be tempered with engineering judgment and experience. Therefore, the recommendations presented in any geotechnical evaluation should not be considered risk-free. Our recommendations represent our judgment of those measures that are necessary to increase the chances that the development and structures will perform satisfactorily. It is critical that all recommendations in this report are followed during construction.

LIMITATIONS

Exploratory borings were widely spaced to provide a preliminary picture of subsurface conditions for planning. We believe this investigation was conducted in a manner consistent with the level of care and skill ordinarily used by geotechnical

engineers practicing under similar conditions. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report or the analysis of the influence of subsurface conditions on the design of the proposed development, please call.

CTL | THOMPSON, INC.

Chris Fitzsimmons, E.I.T.
Staff Engineer

Reviewed by:

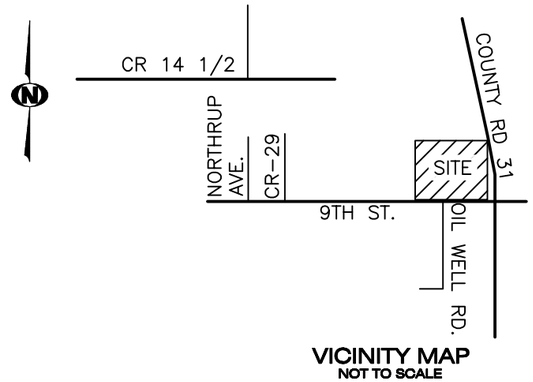
Ronald M. McOmber, P.E.
Chairman, Senior Principal

Ronald M. McOmber
Oct 26 2020

CF:RMM/nn

Via e-mail: don.guerra@landassetstrategies.com

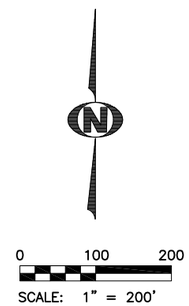




VICINITY MAP
NOT TO SCALE

LEGEND:

TH-1 APPROXIMATE LOCATION OF EXPLORATORY BORING



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ADDITIONAL 38-ACRE PARCEL
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Locations of Exploratory Borings

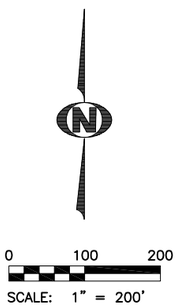
Fig. 1



LEGEND:

TH–1 ●	APPROXIMATE LOCATION OF EXPLORATORY BORING
(18)	INDICATES APPROXIMATE DEPTH TO BEDROCK (FEET)
[4959.5]	INDICATES ESTIMATED BEDROCK ELEVATION (FEET)
BNE	INDICATES BEDROCK WAS NOT ENCOUNTERED

NOTE: THIS ESTIMATE WAS BASED UPON A SUBJECTIVE ANALYSIS OF DRILL HOLE DATA AND MAY NOT REFLECT LOCAL VARIATIONS.



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Approximate Elevation and Depth to Bedrock

Fig. 2



LEGEND:

TH–1 ● APPROXIMATE LOCATION OF EXPLORATORY BORING

(8) INDICATES MEASURED DEPTH TO GROUNDWATER BELOW EXISTING GRADE (FEET)

[4969.5] INDICATES ESTIMATED GROUNDWATER ELEVATION (FEET)

NOTES:
1) THIS ESTIMATE WAS BASED UPON A SUBJECTIVE ANALYSIS OF DRILL HOLE DATA AND MAY NOT REFLECT LOCAL VARIATIONS AND SEASONAL FLUCTUATIONS.

2) READINGS SHOWN REFLECT MEASUREMENTS OBTAINED DURING DRILLING.

N

0 100 200

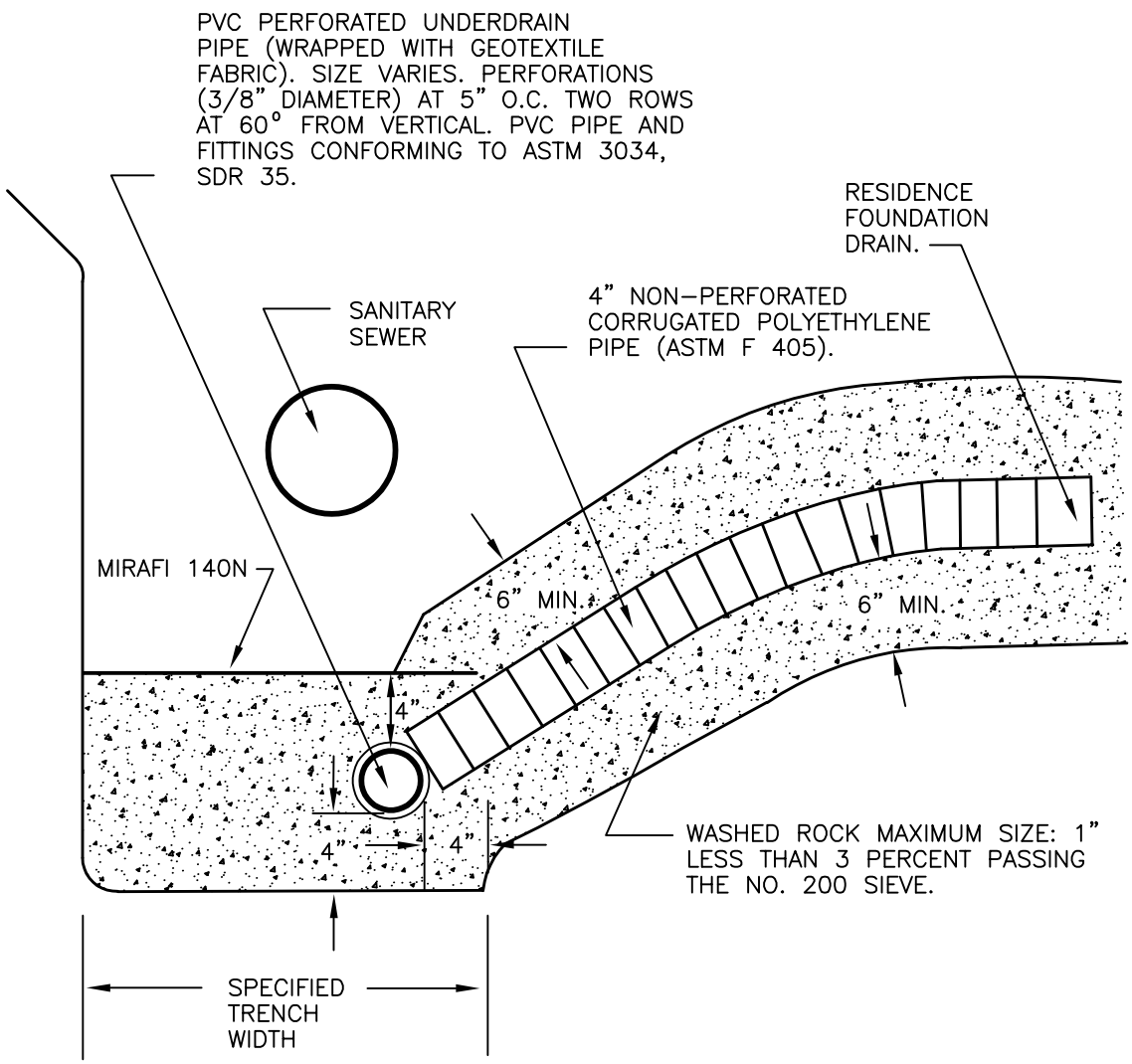
SCALE: 1" = 200'

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Approximate Elevation and Depth to Groundwater

Fig. 3

50-UNDERDRAIN_02



NOTE: NOT TO SCALE.

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Sewer Underdrain Detail

Fig. 4

50—UNDERDRAIN_06

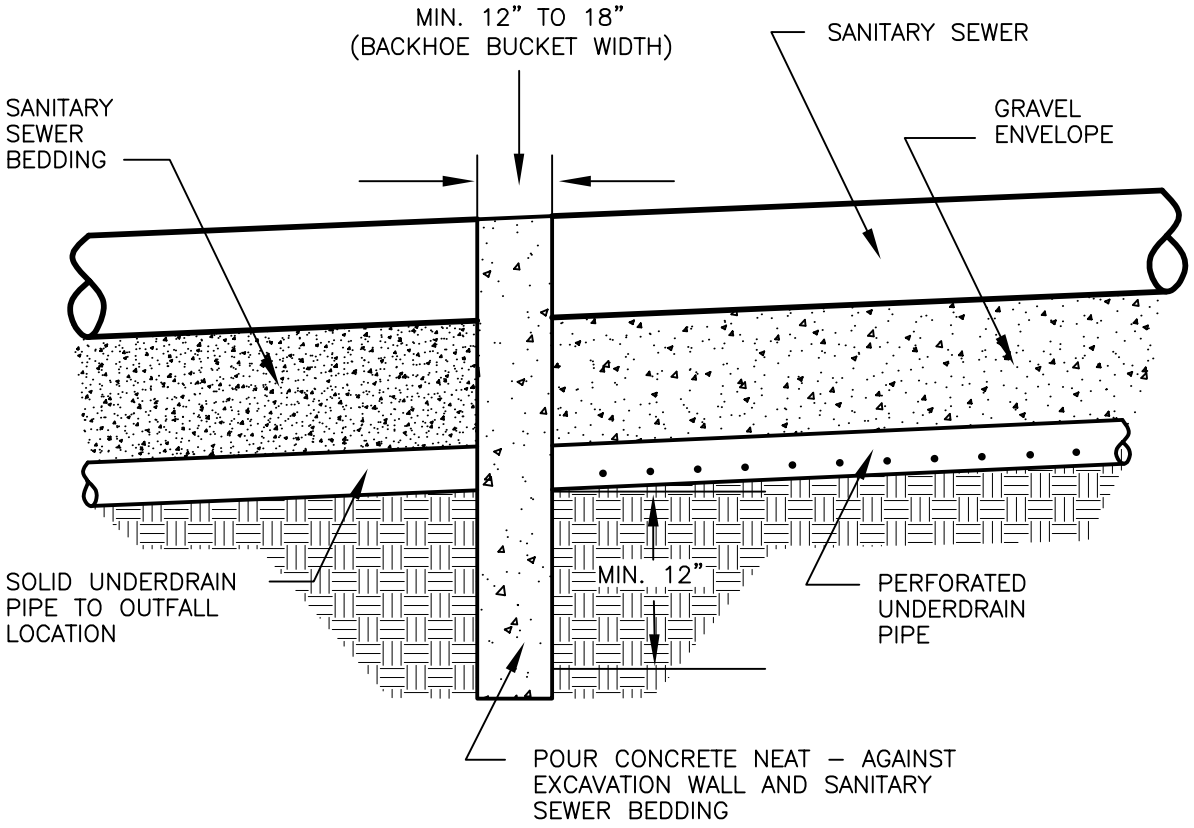
NOT TO SCALE

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Conceptual Underdrain Service Profile

Fig. 5

50-UNDERDRAIN_05



NOTE:
THE CONCRETE CUTOFF WALL SHOULD EXTEND INTO THE UNDISTURBED SOILS OUTSIDE THE UNDERDRAIN AND SANITARY SEWER TRENCH A MINIMUM DISTANCE OF 12 INCHES.

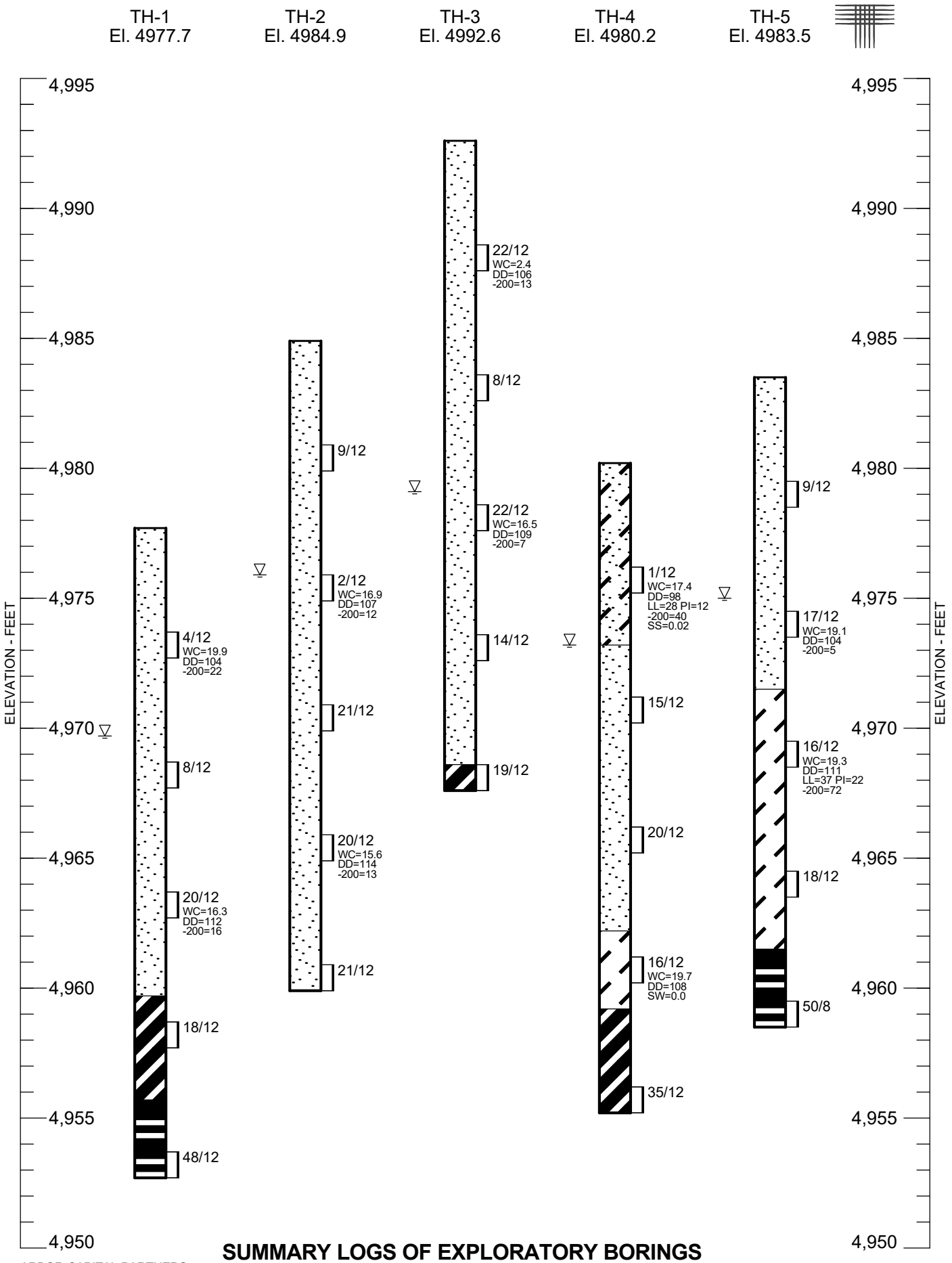
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Underdrain Cutoff Wall Detail

Fig. 6

APPENDIX A

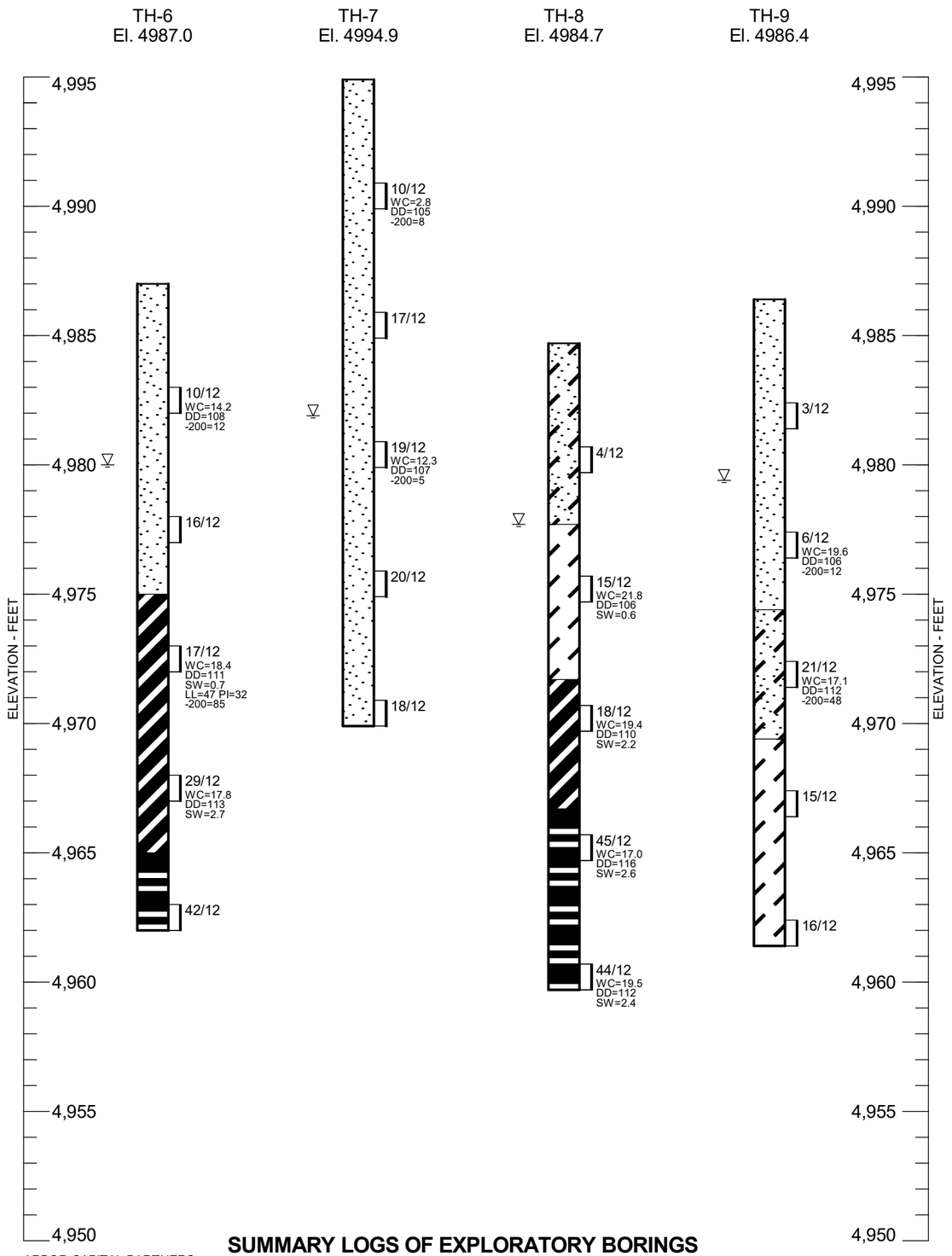
SUMMARY LOGS OF EXPLORATORY BORINGS



SUMMARY LOGS OF EXPLORATORY BORINGS

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FIG. A- 1



LEGEND:

CLAY, SANDY, SILTY, VERY STIFF, MOIST, BROWN, LIGHT BROWN, TAN (CL).

SAND, CLAYEY, VERY LOOSE TO MEDIUM DENSE, MOIST TO VERY MOIST, BROWN, LIGHT BROWN (SC).

SAND, SLIGHTLY SILTY TO SILTY, LOOSE TO MEDIUM DENSE, MOIST TO VERY MOIST, BROWN, TAN (SP, SP-SM).

WEATHERED CLAYSTONE, MOIST, BROWN, RUST, TAN, GRAY.

BEDROCK, CLAYSTONE, MEDIUM HARD TO HARD, MOIST, GRAY, RUST, TAN, BROWN.

DRIVE SAMPLE. THE SYMBOL 4/12 INDICATES 4 BLOWS OF AN AUTOMATIC 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.

WATER LEVEL MEASURED AT TIME OF DRILLING.

NOTES:

1. THE BORINGS WERE DRILLED ON SEPTEMBER 18, 2020 USING 4-INCH DIAMETER, CONTINUOUS-FLIGHT SOLID-STEM AUGER AND TRUCK-MOUNTED CME-45 DRILL RIG.
2. BORING LOCATIONS AND ELEVATIONS WERE DETERMINED BY A REPRESENTATIVE OF OUR FIRM USING A LEICA GS18 GPS UNIT REFERENCING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. WC - INDICATES MOISTURE CONTENT (%).
   DD - INDICATES DRY DENSITY (PCF).
   SW - INDICATES SWELL WHEN WETTED UNDER APPROXIMATE OVERBURDEN PRESSURE (%).
   LL - INDICATES LIQUID LIMIT.
   PI - INDICATES PLASTICITY INDEX.
   -200 - INDICATES PASSING NO. 200 SIEVE (%).
   SS - INDICATES WATER-SOLUBLE SULFATE CONTENT (%).
4. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS CONTAINED IN THIS REPORT.

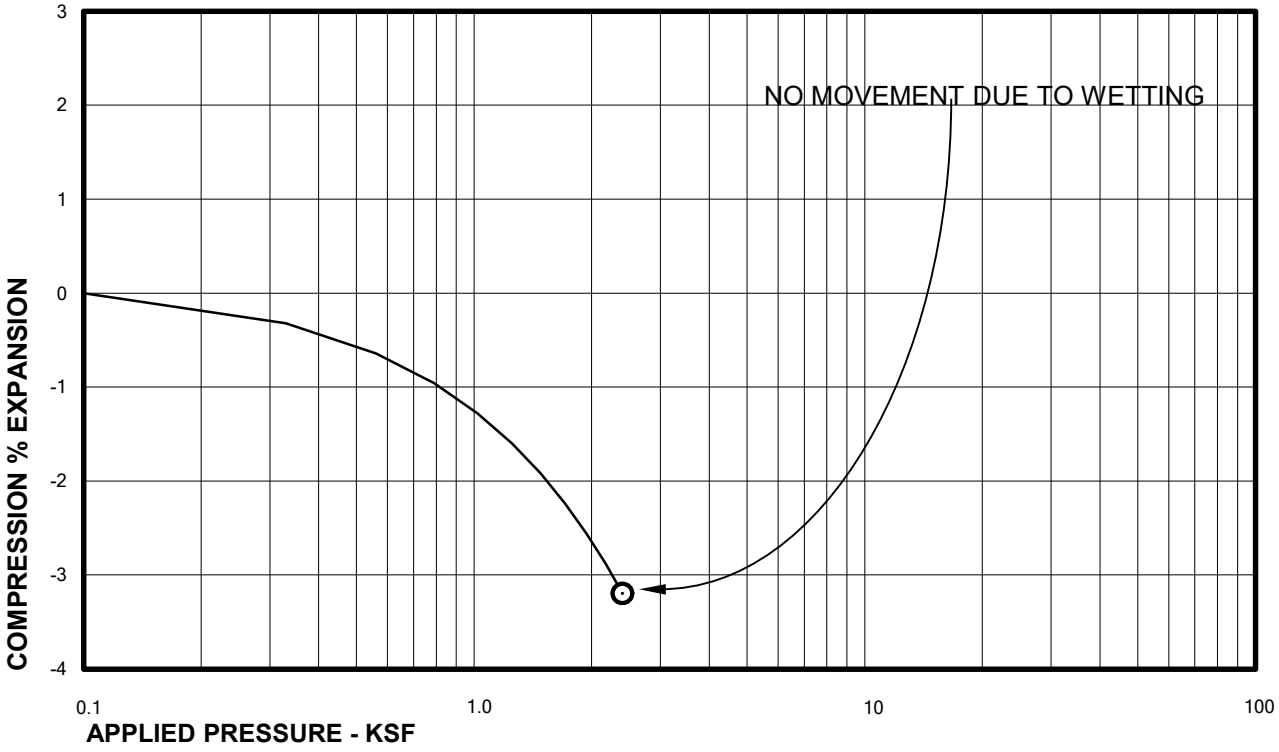
SUMMARY LOGS OF EXPLORATORY BORINGS

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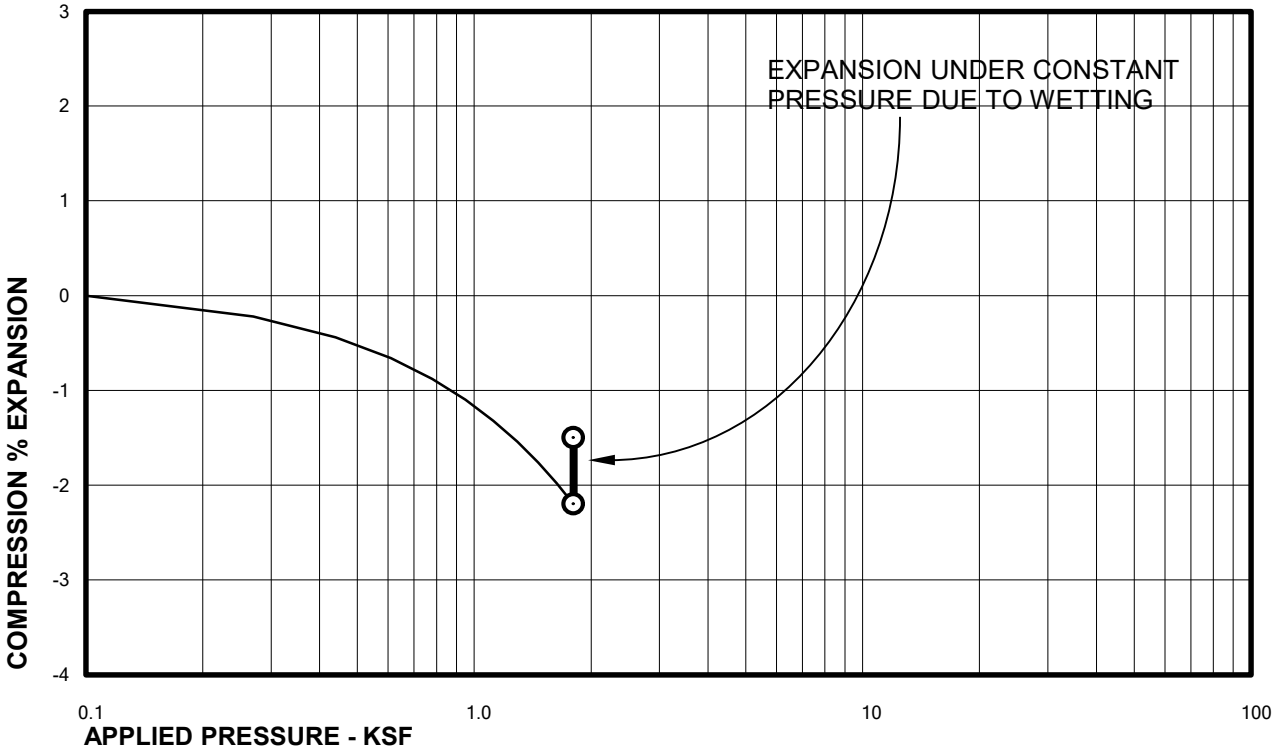
FIG. A- 2

APPENDIX B

LABORATORY TEST RESULTS AND TABLE B-I



Sample of CLAY, SANDY (CL) DRY UNIT WEIGHT= 108 PCF
From TH-4 AT 19 FEET MOISTURE CONTENT= 19.7 %

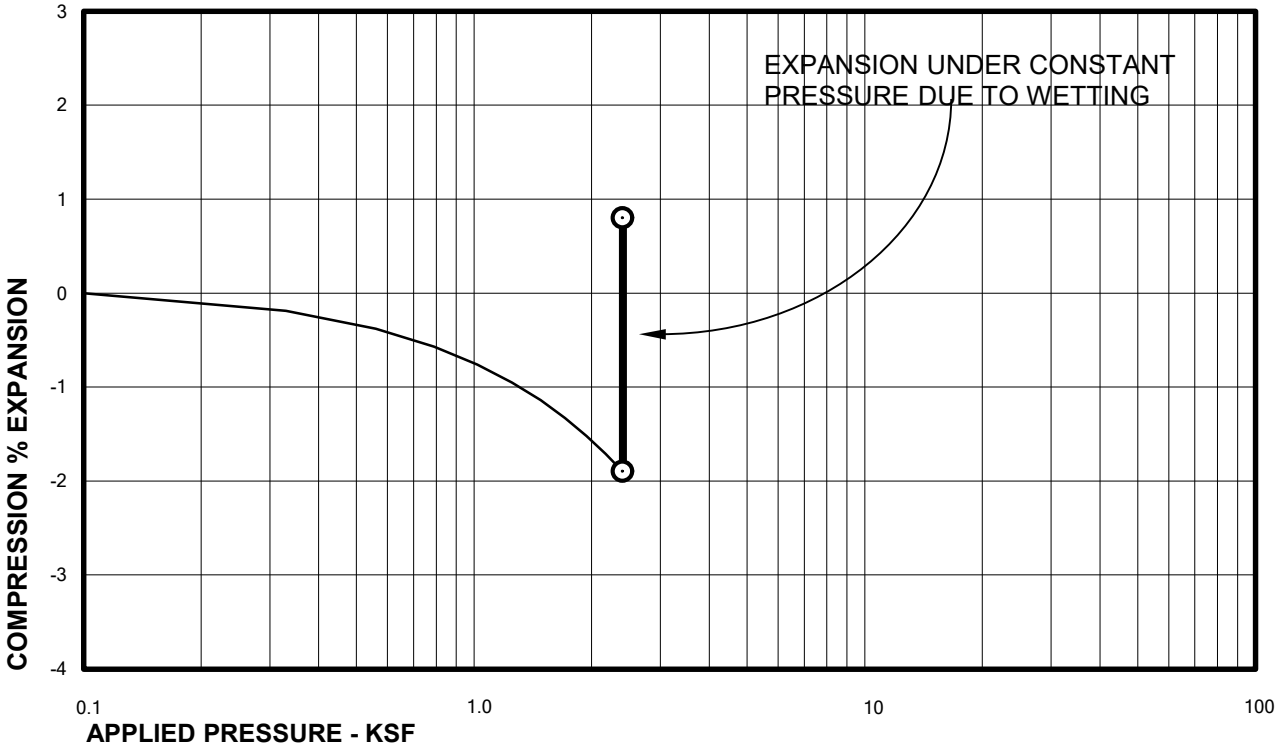


Sample of WEATHERED CLAYSTONE DRY UNIT WEIGHT= 111 PCF
From TH-6 AT 14 FEET MOISTURE CONTENT= 18.4 %

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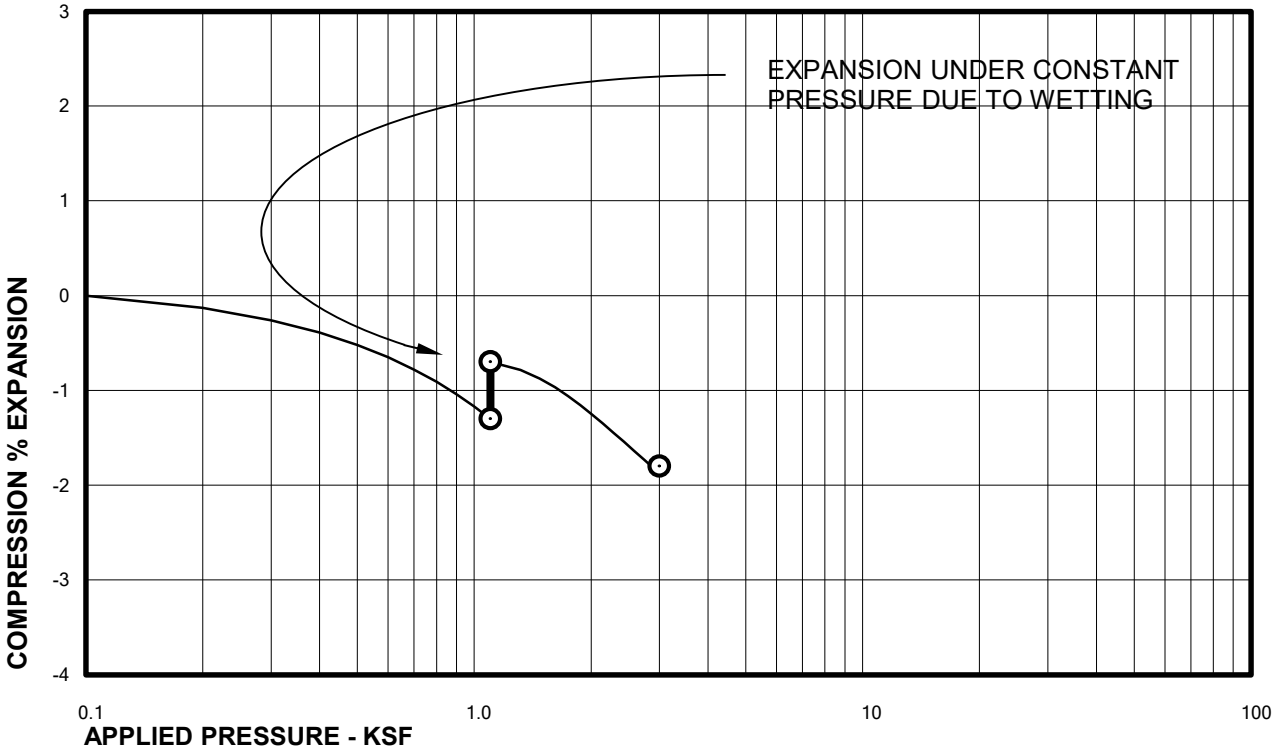
Swell Consolidation Test Results

FIG. B-1



Sample of WEATHERED CLAYSTONE
From TH-6 AT 19 FEET

DRY UNIT WEIGHT= 113 PCF
MOISTURE CONTENT= 17.8 %



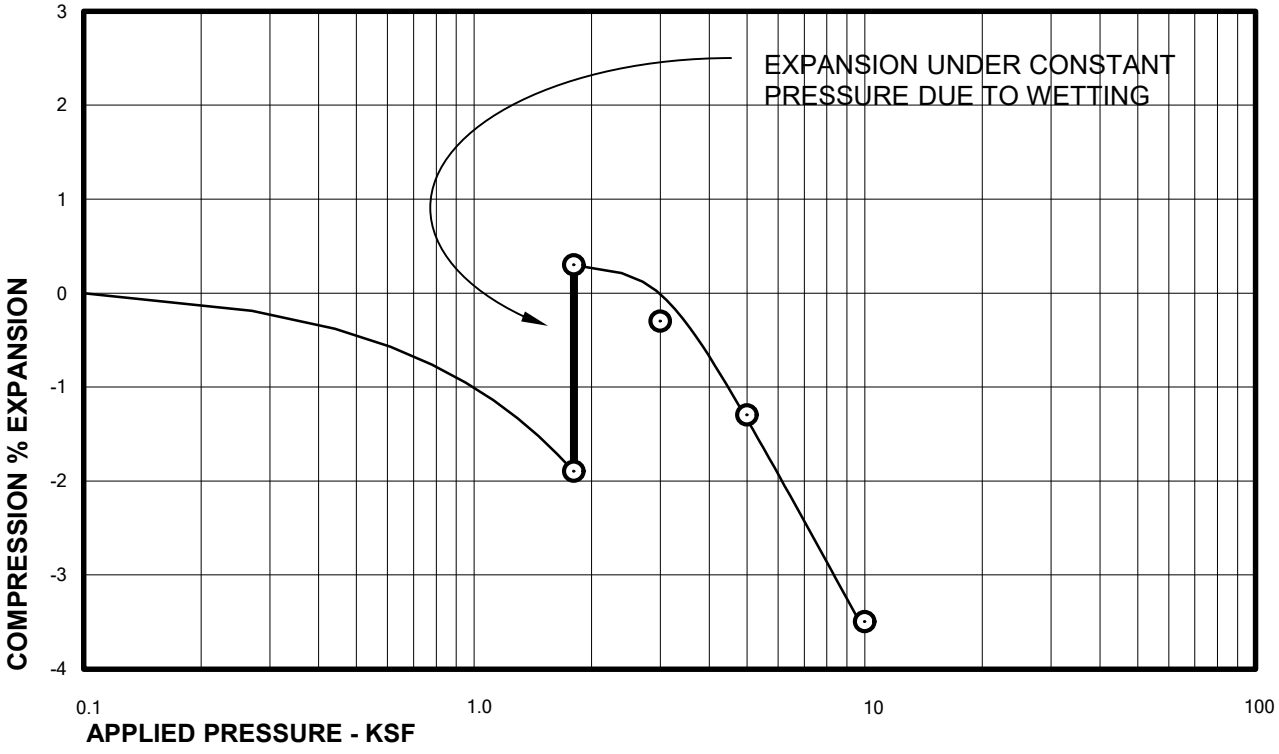
Sample of CLAY, SANDY (CL)
From TH-8 AT 9 FEET

DRY UNIT WEIGHT= 106 PCF
MOISTURE CONTENT= 21.8 %

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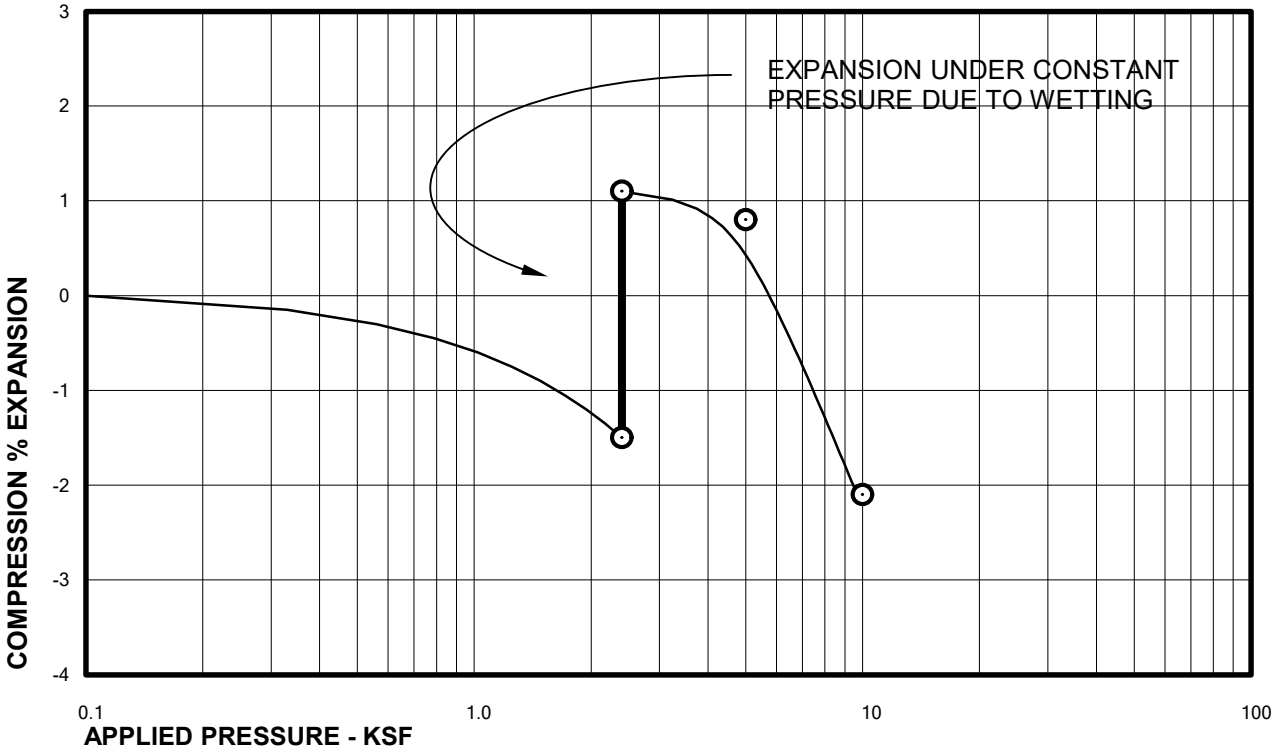
Swell Consolidation Test Results

FIG. B-2



Sample of WEATHERED CLAYSTONE
From TH-8 AT 14 FEET

DRY UNIT WEIGHT= 110 PCF
MOISTURE CONTENT= 19.4 %



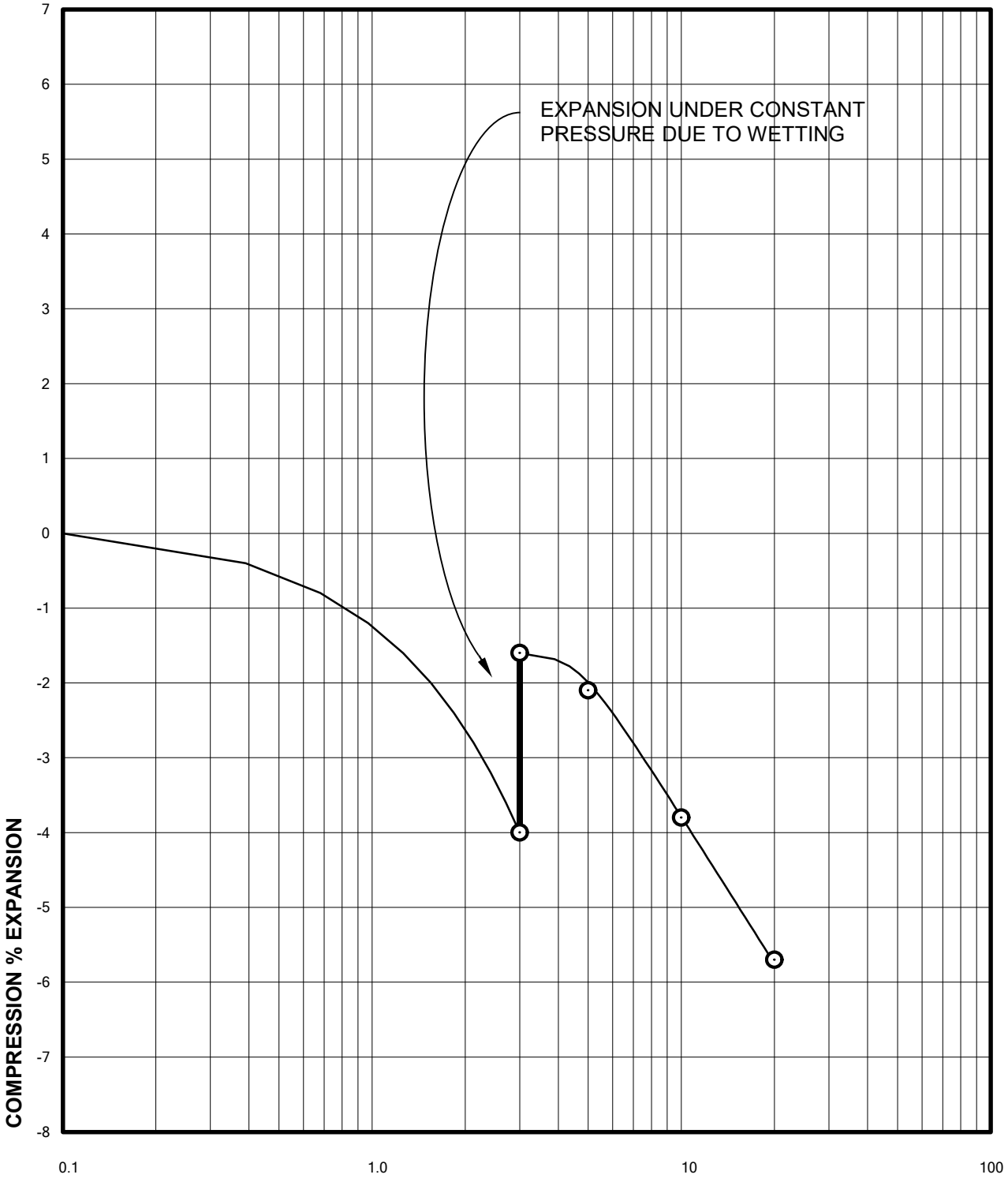
Sample of CLAYSTONE
From TH-8 AT 19 FEET

DRY UNIT WEIGHT= 116 PCF
MOISTURE CONTENT= 17.0 %

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Swell Consolidation Test Results

FIG. B-3



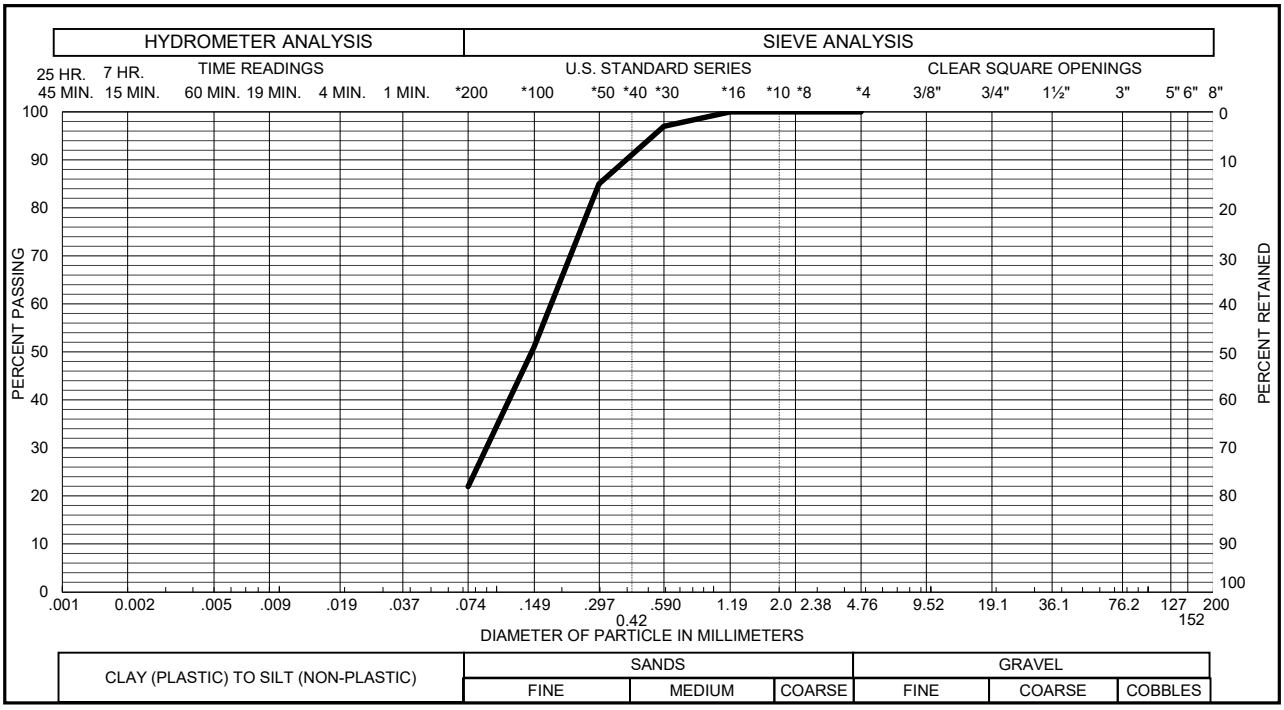
Sample of CLAYSTONE
From TH-8 AT 24 FEET

DRY UNIT WEIGHT= 112 PCF
MOISTURE CONTENT= 19.5 %

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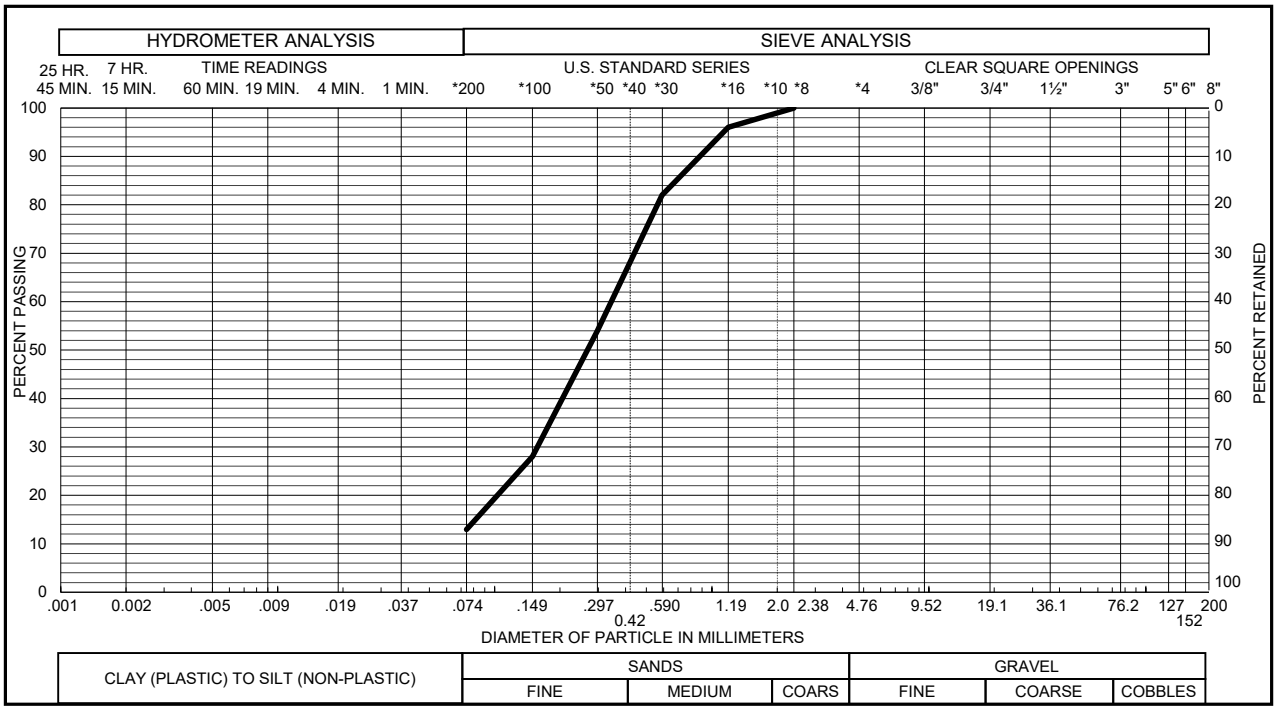
Swell Consolidation Test Results

FIG. B-4



Sample of SAND, SILTY (SM)
From TH - 1 AT 4 FEET

GRAVEL 0 % SAND 78 %
SILT & CLAY 22 % LIQUID LIMIT
PLASTICITY INDEX



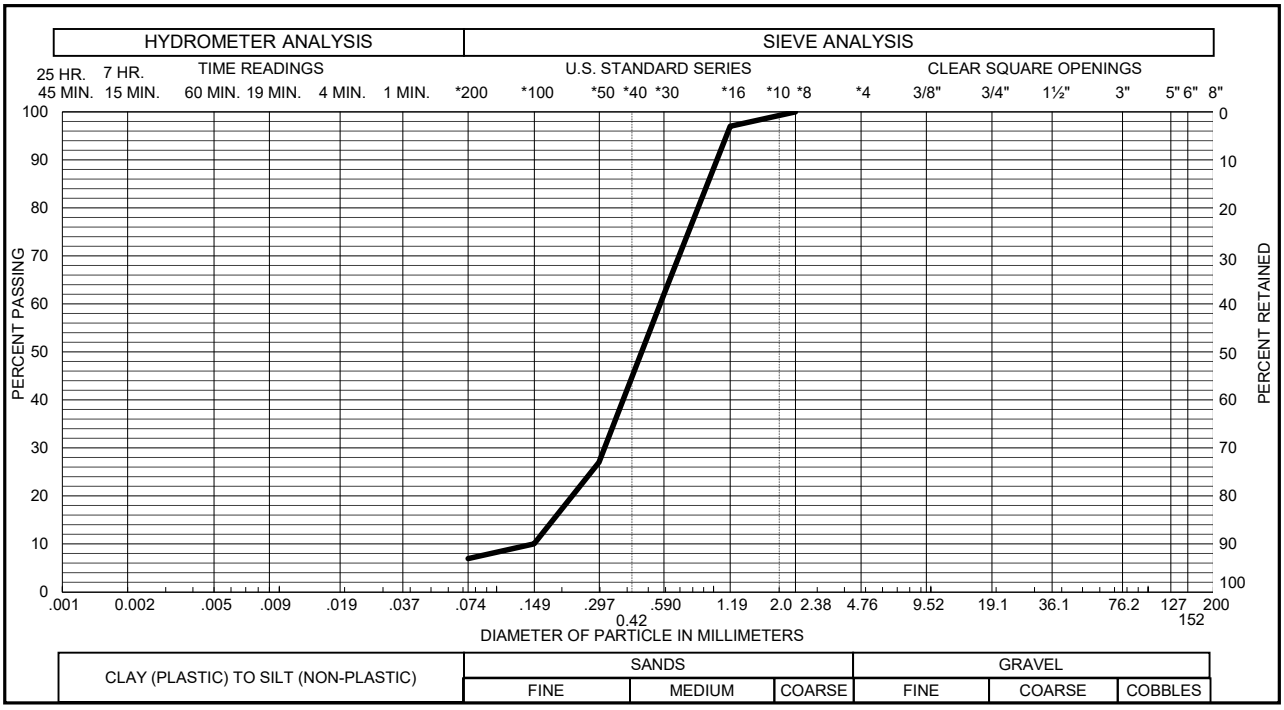
Sample of SAND, SILTY (SM)
From TH - 2 AT 19 FEET

GRAVEL 0 % SAND 87 %
SILT & CLAY 13 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

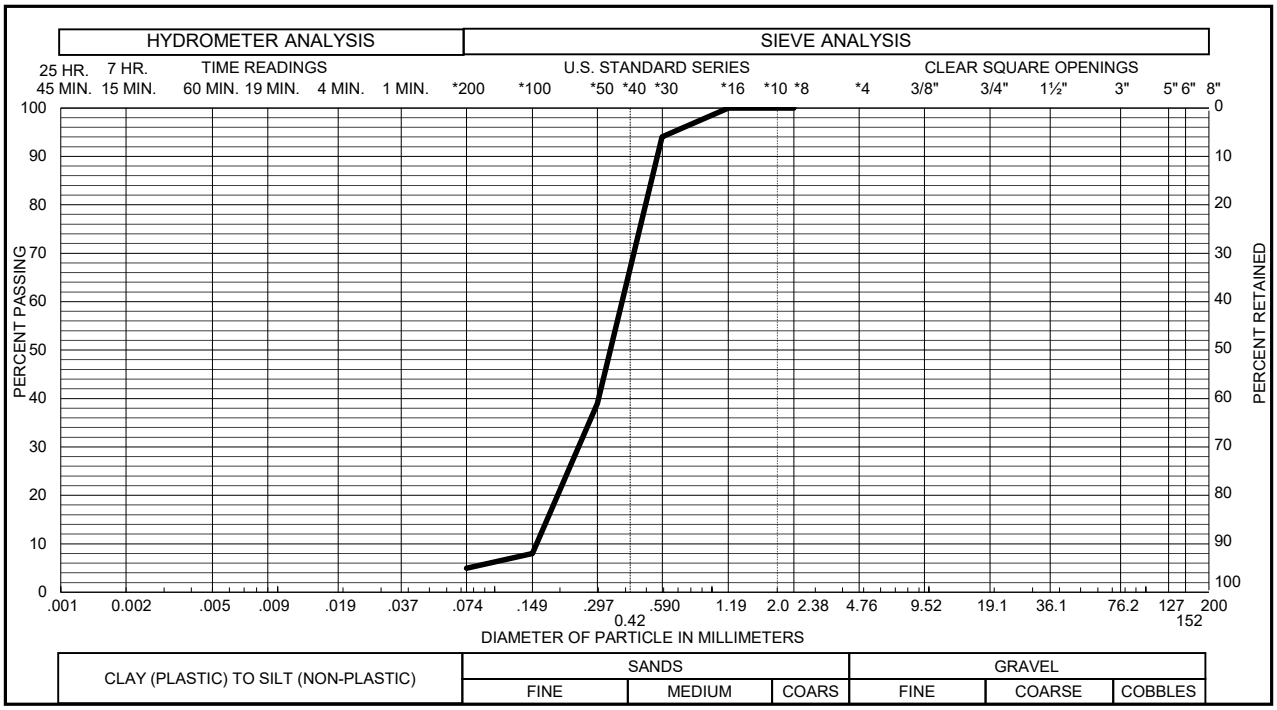
FIG. B-5

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Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 3 AT 14 FEET

GRAVEL 0 % SAND 93 %
SILT & CLAY 7 % LIQUID LIMIT
PLASTICITY INDEX



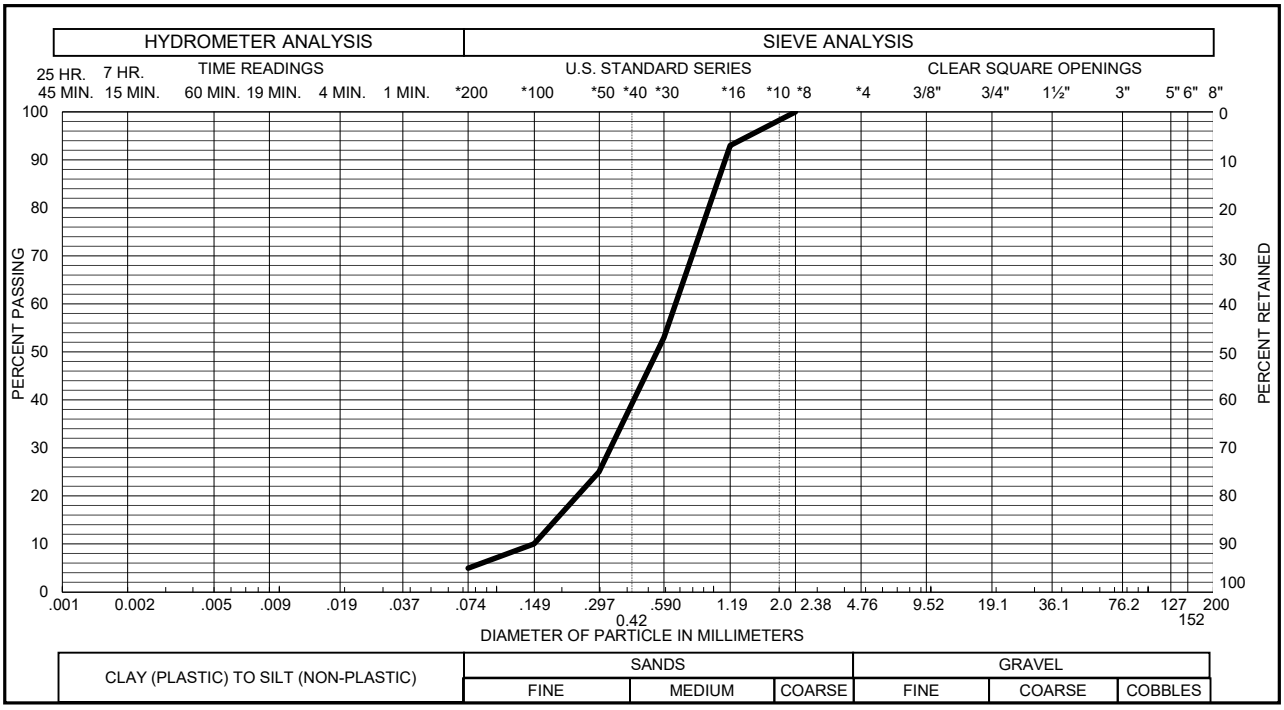
Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 5 AT 9 FEET

GRAVEL 0 % SAND 95 %
SILT & CLAY 5 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

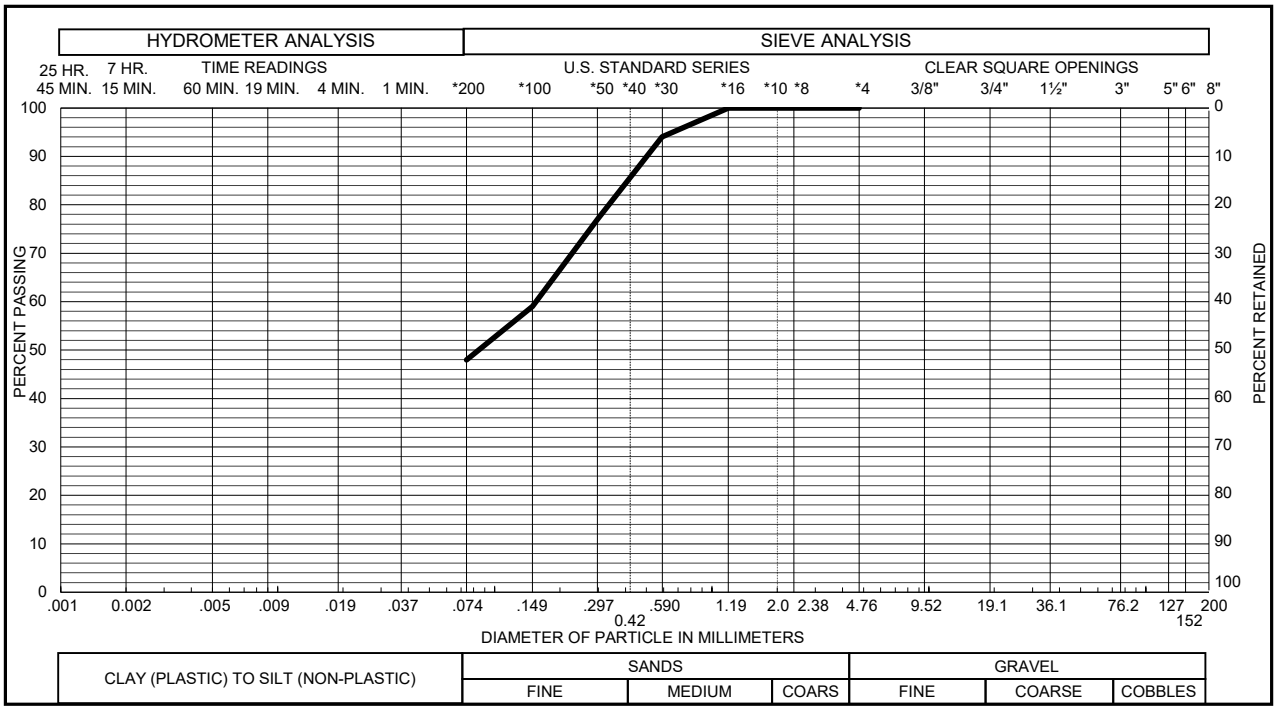
FIG. B-6

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Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 7 AT 14 FEET

GRAVEL 0 % SAND 95 %
SILT & CLAY 5 % LIQUID LIMIT
PLASTICITY INDEX



Sample of SAND, CLAYEY (SC)
From TH - 9 AT 14 FEET

GRAVEL 0 % SAND 52 %
SILT & CLAY 48 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

FIG. B-7

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TABLE B - I

SUMMARY OF LABORATORY TEST RESULTS

BORING	DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL TEST DATA			ATTERBERG LIMITS		SOLUBLE SULFATE CONTENT (%)	PASSING NO. 200 SIEVE (%)	SOIL TYPE
				SWELL (%)	APPLIED PRESSURE (psf)	SWELL PRESSURE (psf)	LIQUID LIMIT	PLASTICITY INDEX			
TH-1	4	19.9	104							22	SAND, SILTY (SM)
TH-1	14	16.3	112							16	SAND, SILTY (SM)
TH-2	9	16.9	107							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-2	19	15.6	114							13	SAND, SILTY (SM)
TH-3	4	2.4	106							13	SAND, SILTY (SM)
TH-3	14	16.5	109							7	SAND, SLIGHTLY SILTY (SP-SM)
TH-4	4	17.4	98				28	12	0.02	40	SAND, CLAYEY (SC)
TH-4	19	19.7	108	0.0	2,400						CLAY, SANDY (CL)
TH-5	9	19.1	104							5	SAND, SLIGHTLY SILTY (SP-SM)
TH-5	14	19.3	111				37	22		72	CLAY, SANDY (CL)
TH-6	4	14.2	108							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-6	14	18.4	111	0.7	1,800		47	32		85	WEATHERED CLAYSTONE
TH-6	19	17.8	113	2.7	2,400						WEATHERED CLAYSTONE
TH-7	4	2.8	105							8	SAND, SLIGHTLY SILTY (SP-SM)
TH-7	14	12.3	107							5	SAND, SLIGHTLY SILTY (SP-SM)
TH-8	9	21.8	106	0.6	1,100	2,000					CLAY, SANDY (CL)
TH-8	14	19.4	110	2.2	1,800	6,000					WEATHERED CLAYSTONE
TH-8	19	17.0	116	2.6	2,400	8,300					CLAYSTONE
TH-8	24	19.5	112	2.4	3,000	11,000					CLAYSTONE
TH-9	9	19.6	106							12	SAND, SLIGHTLY SILTY (SP-SM)
TH-9	14	17.1	112							48	SAND, CLAYEY (SC)

APPENDIX C

GUIDELINE SITE GRADING SPECIFICATIONS
Cottonwood Greens Subdivision – Additional 38-acre Parcel
Fort Lupton, Colorado

GUIDELINE SITE GRADING SPECIFICATIONS

Cottonwood Greens Subdivision – Additional 38-acre Parcel
Fort Lupton, Colorado

1. DESCRIPTION

This item shall consist of the excavation, transportation, placement and compaction of materials from locations indicated on the plans, or staked by the Engineer, as necessary to achieve preliminary street and overlot grade elevations. These specifications shall also apply to compaction of excess cut materials that may be placed outside of the development boundaries.

2. GENERAL

The Soils Representative shall be the Owner's Representative. The Soils Representative shall approve fill materials, method of placement, moisture contents and percent compaction, and shall give written approval of the completed fill.

3. CLEARING JOB SITE

The Contractor shall substantially remove all debris, vegetation, organics and other deleterious materials before excavation or fill placement. The Contractor shall dispose of the cleared material to provide the Owner with a clean, neat appearing job site. Cleared material shall not be placed in areas to receive fill or where the material will support structures of any kind.

4. AREA TO BE FILLED

Debris, vegetation, organics and other deleterious materials shall be substantially removed from the ground surface upon which fill is to be placed. The surface shall then be plowed or scarified until the surface is free from ruts, hummocks or other uneven features, which would prevent uniform compaction.

After the foundation for the fill has been cleared and scarified, it shall be disced or bladed until it is free from large clods, brought to the proper moisture content (optimum to 3 percent above optimum moisture content for clays and within 2 percent of optimum moisture content for sands) and compacted to at least 95 percent of maximum dry density as determined in accordance with ASTM D 698.

5. FILL MATERIALS

Fill soils shall be substantially free from debris, vegetation, organics and other deleterious materials, and shall not contain rocks or lumps having a diameter greater than six (6) inches. Claystone bedrock should be broken down to three (3) inches or smaller in size. Fill materials shall be obtained from cut areas shown on the plans or staked in the field by the Engineer.

On-site materials classifying as CL, CH, SC, SM, SW, SP, GP, GC and GM are acceptable.

6. MOISTURE CONTENT

Fill material classifying as CH, CL and SC shall be moisture-conditioned between optimum and 3 percent above optimum moisture content. Granular soils classifying as SM, SW, SP, GP, GC and GM shall be moisture conditioned to within 2 percent of optimum moisture content as determined from Proctor compaction tests. Sufficient laboratory compaction tests shall be made to determine the optimum moisture content for the various soils encountered in borrow areas.

The Contractor may be required to add moisture to the excavation materials in the borrow area if, in the opinion of the Soils Representative, it is not possible to obtain uniform moisture content by adding water on the fill surface. The Contractor may be required to rake or disc the fill soils to provide uniform moisture content through the soils.

The application of water to embankment materials shall be made with any type of watering equipment approved by the Soils Representative, which will give the desired results. Water jets from the spreader shall not be directed at the embankment with such force that fill materials are washed out.

Should too much water be added to any part of the fill, such that the material is too wet to permit the desired compaction from being obtained, rolling and all work on that section of the fill shall be delayed until the material has been allowed to dry to the required moisture content. The Contractor will be permitted to rework wet material in an approved manner to hasten its drying.

7. COMPACTION OF FILL AREAS

Selected fill material shall be placed and mixed in evenly spread layers. After each fill layer has been placed, it shall be uniformly compacted to not less than the specified percentage of maximum density. Fill shall be compacted to at least 95 percent of the maximum density as determined in accordance with ASTM D 698. At the option of the Soils Representative, soils classifying as SW, GP, GC, or GM may be compacted to 95 percent of maximum density as determined in accordance with ASTM D 1557 or 70 percent relative density for cohesionless sand soils. Fill materials shall be placed such that the thickness of loose materials does not exceed 10 inches and the compacted lift thickness does not exceed 6 inches.

Compaction as specified above, shall be obtained by the use of sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other equipment for soils classifying as CL, CH, or SC. Granular fill shall be compacted using vibratory equipment or other approved equipment. Compaction shall be accomplished while the fill material is at the specified moisture content. Compaction of each layer shall be continuous over the entire area. Compaction equipment shall make sufficient trips to ensure that the required density is obtained.

8. COMPACTION OF SLOPES

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction operations shall be continued until slopes are stable, but not

too dense for planting, and there is no appreciable amount of loose soils on the slopes. Compaction of slopes may be done progressively in increments of three to five feet (3' to 5') in height or after the fill is brought to its total height. Permanent fill slopes shall not exceed 3:1 (horizontal to vertical).

9. PLACEMENT OF FILL ON NATURAL SLOPES

Where natural slopes are steeper than 20 percent in grade and the placement of fill is required, benches shall be cut at the rate of one bench for each 5 feet in height (minimum of two benches). Benches shall be at least 10 feet in width. Larger bench widths may be required by the Engineer. Fill shall be placed on completed benches as outlined within this specification.

10. DENSITY TESTS

Field density tests shall be made by the Soils Representative at locations and depths of his choosing. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches. Density tests shall be taken in compacted material below the disturbed surface. When density tests indicate that the density or moisture content of any layer of fill or portion thereof is not within specification, the particular layer or portion shall be reworked until the required density or moisture content has been achieved.

11. SEASONAL LIMITS

No fill material shall be placed, spread or rolled while it is frozen, thawing, or during unfavorable weather conditions. When work is interrupted by heavy precipitation, fill operations shall not be resumed until the Soils Representative indicates that the moisture content and density of previously placed materials are as specified.

12. NOTICE REGARDING START OF GRADING

The Contractor shall submit notification to the Soils Representative and Owner advising them of the start of grading operations at least three (3) days in advance of the starting date. Notification shall also be submitted at least 3 days in advance of any resumption dates when grading operations have been stopped for any reason other than adverse weather conditions.

13. REPORTING OF FIELD DENSITY TESTS

Density tests made by the Soils Representative, as specified under "Density Tests" above, shall be submitted progressively to the Owner. Dry density, moisture content, and percentage compaction shall be reported for each test taken.

14. DECLARATION REGARDING COMPLETED FILL

The Soils Engineer shall provide a written declaration stating that the site was filled with acceptable materials, and was placed in general accordance with the specifications.

Traffic Impact Study
Cottonwood Greens PUD

January 24, 2022



Prepared for:
Arbor Capital Partners LLC

Rollins Consult LLC

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1 INTRODUCTION

This report documents the results of a study to evaluate the potential traffic impacts of the proposed Cottonwood Greens project in the City of Fort Lupton, Colorado. Rollins Consult LLC conducted the study in support of the development application for the proposed project. This study is a follow-up to the original traffic study that was dated October 7, 2019. The site includes some additional property that is addressed in this study.

PROJECT DESCRIPTION

The Cottonwood Greens project is in the City of Fort Lupton, west of Weld County Road (CR) 31 and north of 9th Street. The site is bounded by the Fulton Ditch and the future alignment of 14th Street. The project site is comprised of approximately 153 acres. The site is surrounded by undeveloped land to the north and east. South of the site is a golf course and government facilities. West of the project site is a church, residential development, and undeveloped land. Figure 1 illustrates the project location and study area.

The project site is depicted on Figure 2. The site was designed with numerous roadways which allow for the distribution of pedestrians, bicycles, and vehicles. The internal roadways were designed as a curvilinear grid. There is also a pedestrian and bicycle trail (the Man Fulton Ditch Trail) proposed that follows the alignment of the Fulton Ditch.

The project proposes the following land uses and transportation elements:

- There are 404 single family homes proposed.
- 137 townhomes would be in the southern part of the project.
- Access to public roadways would be provided at five connections. Three access locations are proposed from 9th Street. One access is provided to CR 31. One access will be provided to 14th Street.
- The internal roadway system has been designed to accommodate the project traffic.
- The proposed pedestrian and bicycle trail along the Fulton Ditch will connect to both the planned Fort Lupton Trail and the Main Fulton Ditch Trail. The site also provides parking and access to future bike/ped trails.

Figure 1 – Project Location

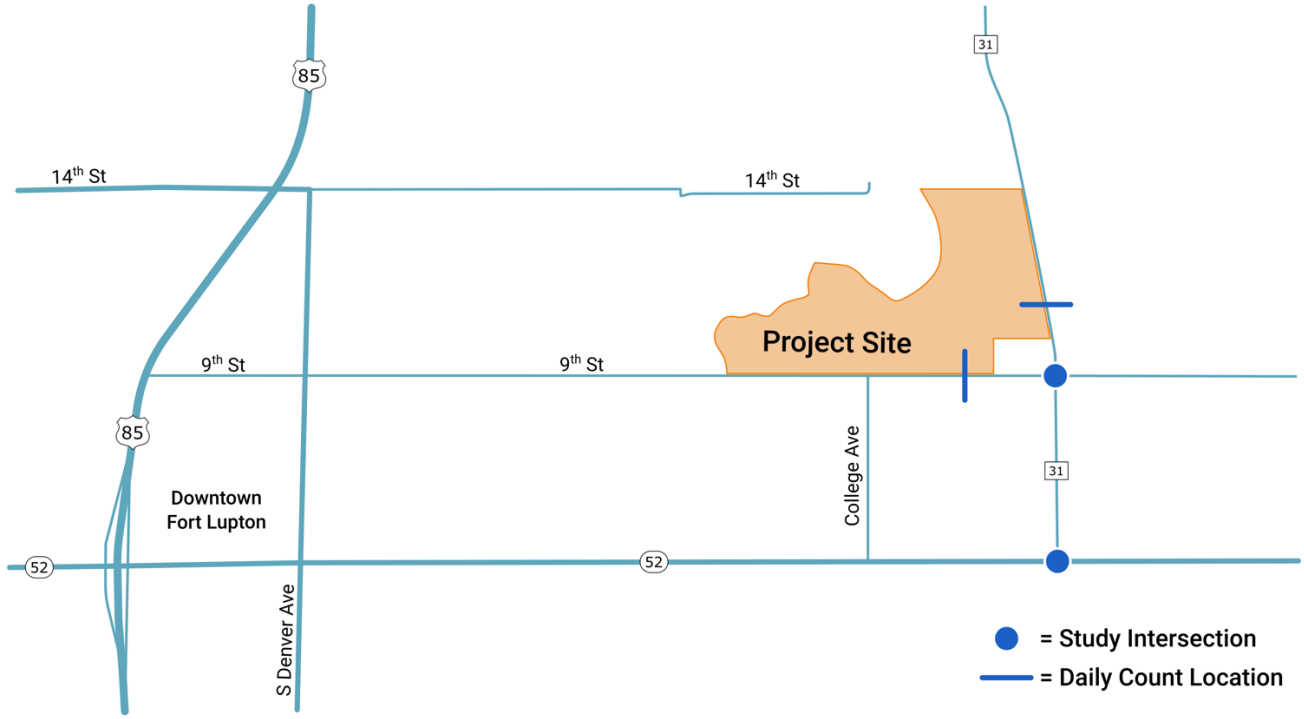
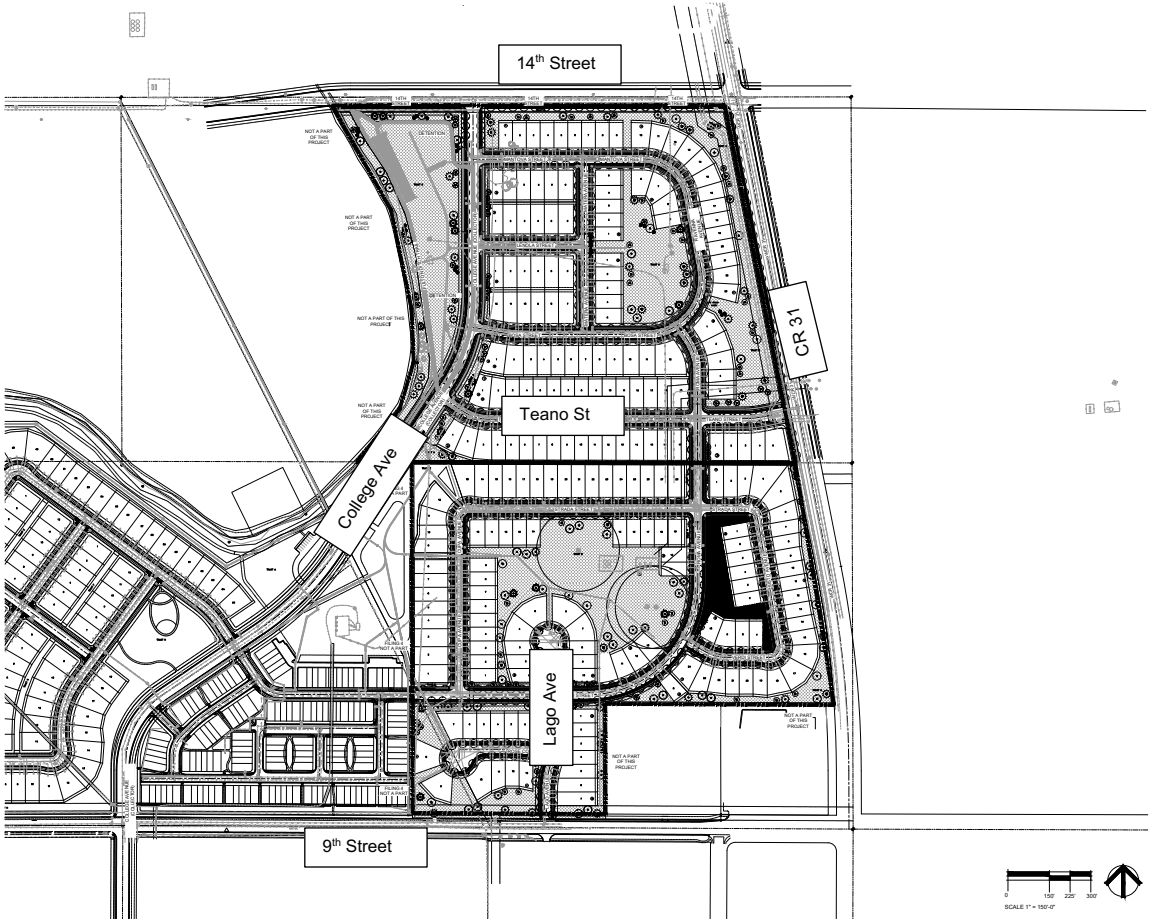


Figure 2 - Project Site Plan



STUDY SCOPE

The scope of work for this study was developed in conjunction with the City of Fort Lupton's Public Works department. The base assumptions, technical methodologies, and geographic coverage of the study were all identified as part of the study approach. The study analyzes the potential project-generated traffic impacts on the adjacent street system.

The study evaluates the potential changes to the transportation system after the completion of the proposed Cottonwood Greens residential project for two future horizon years. The analysis of future year traffic forecasts is based on projected conditions in years 2027 (short-range conditions) and 2040 (long-range future conditions) both with and without the addition of the project traffic. The following transportation scenarios were analyzed for the AM and PM peak hours:

- **Existing Conditions** – The analysis of existing traffic conditions provides a basis for the remainder of the study. The existing transportation system is described. Peak hour intersection operations are evaluated.
- **Project Travel Demand** – The traffic generated by the Project will be estimated, distributed, and assigned to the transportation network.
- **2027 and 2040 Background Conditions** – Future traffic conditions are projected without the proposed Project for the project buildout year 2027 and the long-range future year 2040. The traffic volumes on the roadway system will be factored and analyzed to reflect conditions for 2027 and 2040. This analysis will include the addition of traffic from other potential projects.
- **Total Future Conditions** – The traffic associated with the project will be projected and added to the Background traffic. The intersection operations will be determined.

The study examined three intersections within the study area. These were identified by the City of Fort Lupton for inclusion in the study. The study intersections are shown on Figure 1 and listed below.

1. CR 31 & SH 52
2. CR 31 & 9th Street
3. Future CR 31 & 14th Street (to be connected to CR 31 by 2027)

2 EXISTING CONDITIONS

The transportation system has numerous elements that are described in this chapter. The roadway network identified for this study is described and traffic volume information is presented for the study intersections.

ADJACENT LANDUSE

The Project site is located west of CR 31 and north of 9th Street. The site is currently undeveloped land and is located to the east of downtown Fort Lupton. It is surrounded by undeveloped land, rural residential, and industrial to the north and east. South of the site is a golf course and government facilities. West of the project site is a church, residential development, and undeveloped land.

TRANSPORTATION NETWORK

The primary roadways that serve the Project site are described below. Roadway designations were provided in the *Fort Lupton Transportation Plan,* June 2018.

Roadway Network

State Highway (SH) 52 – This is a two-lane state highway that provides regional connections to Interstate 25 west of Fort Lupton, US 85 in Fort Lupton, and Interstate 76 to the east. In the study area, this is a two-lane east-west roadway with narrow paved shoulders. The speed limit is posted at 55 mph. At the intersection with CR 31, there are turn/auxiliary lanes provided.

CR 31 is a north-south two-lane roadway. The speed limit is posted at 45 mph in the study area. CR 31 has no improved shoulders. It is identified as a truck route by Fort Lupton. Currently, CR 31 terminates at State Highway (SH) 52.

9th Street is an east-west two-lane roadway. Directly west of CR 31, 9th Street is a paved roadway with sidewalks. The intersection of 9th Street at CR 31 is improved for the eastbound direction. The speed limit is 40 mph. East of CR 31, 9th Street is an unpaved two-lane roadway.

College Avenue is a north-south two-lane roadway that currently exists south of the Project site. Near 9th Street it is unpaved. Near SH 52 it is paved and provides access to Aims Community College. The City of Fort Lupton plans on improving College Avenue by paving it from 9th Street south to its' current pavement.

EXISTING TRAFFIC CONDITIONS

Existing intersection operations were evaluated for both the morning and evening peak hours. Intersection count data and daily counts were collected on Wednesday, April 24, 2019. **Appendix A** includes the intersection turning movement and daily count data. The resulting peak hour turning movement and daily volumes are provided on Figure 4. The current lane configurations of the study intersections are shown on Figure 5.

Intersection Level of Service Analysis Methodologies

Transportation professionals evaluate intersections to determine how they are currently operating and will operate in the future. The methods employed can be found in the Transportation Research Board's, 6th Edition, 2016 *Highway Capacity Manual* (HCM). Level of service (LOS) is based on a "graded" system from LOS A, very little to no delays, to LOS F which represents excessive delays and congestion.

The City of Fort Lupton has established a Level of Service criteria within their *Standards and Specifications for the Design and Construction of Public Improvements,* 2015. Chapter 8 – Traffic Control states: "Level of Service "C" shall be the design objective for all movements, and under no circumstances will less than Level of Service "D" be accepted for site and non-site traffic, including existing traffic at Build-out of the study area." Definitions for level of service are provided for both unsignalized (existing operations) and signalized conditions.

Unsignalized Intersection

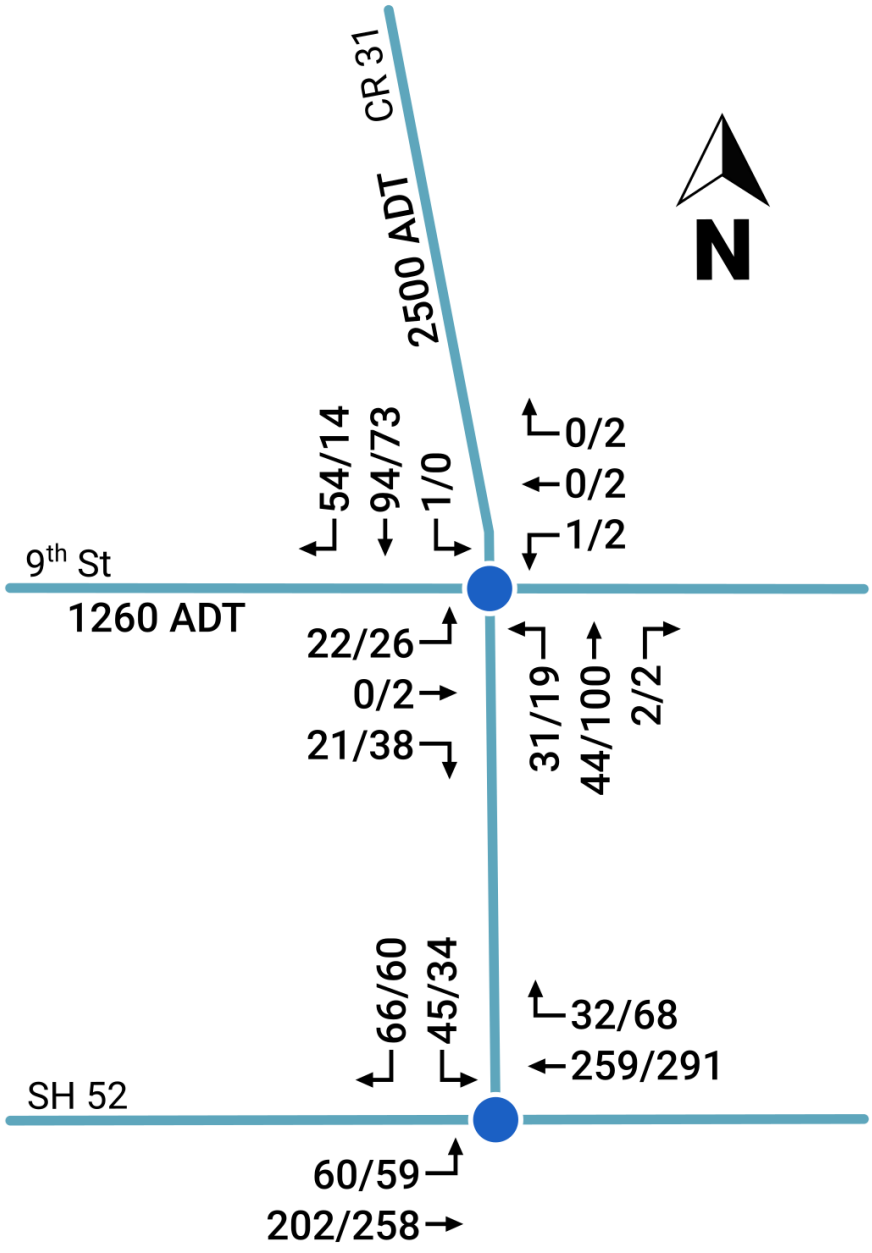
Peak hour levels of motor vehicle delay at unsignalized intersections were estimated using the method from Chapter 17 of the 2016 *Highway Capacity Manual*. The delays for the entire intersection and each of the constrained movements are reported. Table 1 summarizes the relationship between average control delay per vehicle and LOS for unsignalized intersections.

Table 1 Unsignalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	No delay for stop-controlled approaches.
B	10.0 and ≤15.0	Operations with minor delay.
C	>15.0 and ≤25.0	Operations with moderate delays.
D	>25.0 and ≤35.0	Operations with increasingly unacceptable delays.
E	>35.0 and ≤50.0	Operations with high delays, and long queues.
F	>50.0	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.

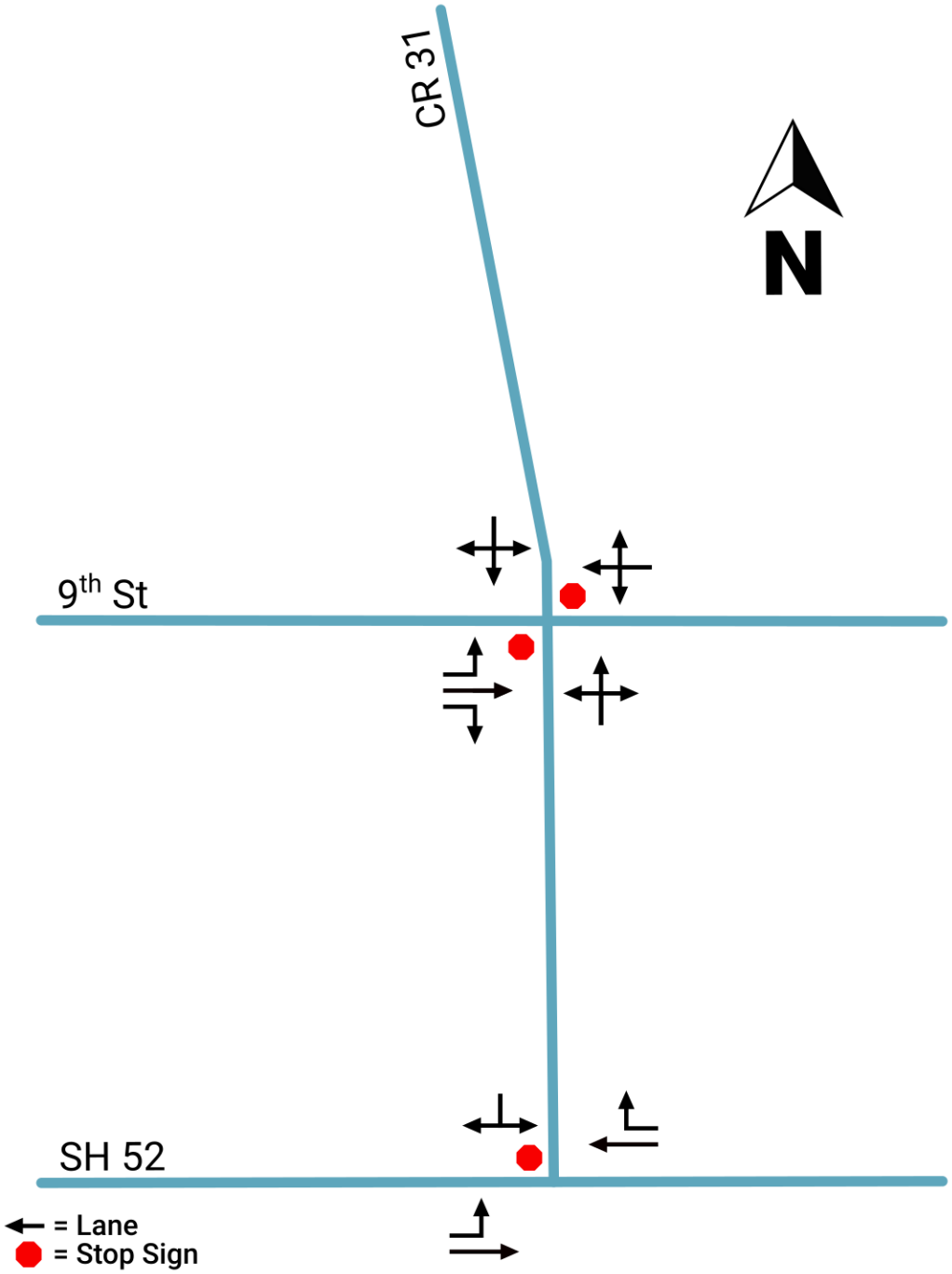
Source: Transportation Research Board, Highway Capacity Manual, 2016.

Figure 3 – Existing Peak Hour & Daily Volumes



AM/PM Peak Hour Turning Movements
ADT = Average Daily Traffic

Figure 4 – Existing Lane Configurations



Signalized Intersections

Peak hour levels of motor vehicle delay at signalized intersections were estimated using methods provided in Transportation Research Board's 2010 Highway Capacity Manual. This operations analysis method uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay

experienced by motorists traveling through an intersection. Control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue Table 2 summarizes the relationship between average control delay per vehicle and LOS for signalized intersections.

Table 2 Signalized Intersection Level of Service Definitions

Level of Service	Average Control Delay Per Vehicle (Seconds)	Description
A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable, and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally, occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop but dissipate rapidly, without excessive delays.
E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

Source: Transportation Research Board, Highway Capacity Manual, 2016.

Existing Intersection Conditions

Using the HCM methodology, the weekday AM and PM peak hour intersection operations were determined. The results are provided in Table 3. As indicated in the table, both study intersections are currently operating at acceptable levels of service. The detailed analysis worksheets are provided in Appendix B.

Table 3 Existing Weekday Peak-Hour Intersection Level of Service

#	Intersection	Overall Movement	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
1	CR 31 & SH 52 T Stop Control	Overall	2.9	A	2.2	A
		EB LT	8.1	A	8.3	A
		SB	13	B	13.2	B
2	CR 31 & 9th Street Two Way Stop Control	Overall	2.5	A	3	A
		NB LT	7.6	A	7.4	A
		EB LT	10.4	B	10.3	B
		EB T	0	A	10.5	B
		EB RT	9	A	8.9	A
		WB	10.5	B	10	B
		SB LT	7.3	A	0	A

Notes:
1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. Average vehicle delay (in seconds per vehicle) is reported for both overall intersection and each constrained /STOP-controlled movement or approach.

3 PROJECT TRAVEL DEMAND

This chapter provides an overview of the project and a description of the travel demand methodology to estimate vehicle trip generation, distribution, and assignment of project-generated traffic along area roadways and intersections.

PROJECT CHARACTERISTICS

The proposed Cottonwood Greens project is a residential project located west of CR 31 and north of 9th Street. The project site plan was depicted on Figure 2. The project is planned on approximately 153 acres. As shown on the figure, vehicular access to the project will be from CR 31 (one location), 9th Street (three locations), and a connection with the future 14th Street. The primary north-south project roadway is the extension of College Avenue. The project will be developed with 404 single family and 137 townhomes. The transportation characteristics of the site include a curvilinear grid roadway layout, a pedestrian/bicycle trail that allows for future connections to the Main Fulton Ditch Trail and the Fort Lupton Trail.

PROJECT TRIP GENERATION

The trip generation characteristics of the project were estimated using data from the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th Edition. It should be noted that this is an update from the October 7, 2019, study which used the 10th edition trip generation rates. Table 4 provides the trip generation estimated for the project. As indicated in the table, the full buildout of the project is estimated to generate approximately 4,600 daily trips, 330 morning, and 450 evening peak hour trips.

PROJECT TRIP DISTRIBUTION | ASSIGNMENT

The distribution of the project traffic onto the roadway system was based on: the existing peak hour traffic counts, the roadway network, the adjacent land use, the location of the project within the region and the City of Fort Lupton, traffic forecasts from the *Transportation Plan,* and input from the City engineer. The project trip distribution is depicted on Figure 5.

The project assigned peak hour traffic volumes are shown on Figure 6. The City of Fort Lupton has within their *Transportation Plan* the extension of CR 31 south of SH 52 to CR 8. The projected traffic volumes on Figure 6 were modified at CR 31 and SH 52 to reflect this connection. The future year 2040 peak hour traffic volumes for this location are provided in Figure 7.

Table 4 – Estimated Trip Generation

ITE Land Use Code & Rates		Project	Project Trip Generation						
Land Use	Land Use Code	Dwelling Units	Daily	AM			PM		
				IN	Out	Total	IN	Out	Total
Cottonwood Single-Family Detached	210	404	3646	69	196	265	233	137	369
Multi-Family Low Rise	220	137	953	16	50	65	50	29	79
TOTAL BUILDOUT			4,599	85	246	331	283	166	449

Based on ITE Trip Generation 11th Edition

Figure 5 – Trip Distribution

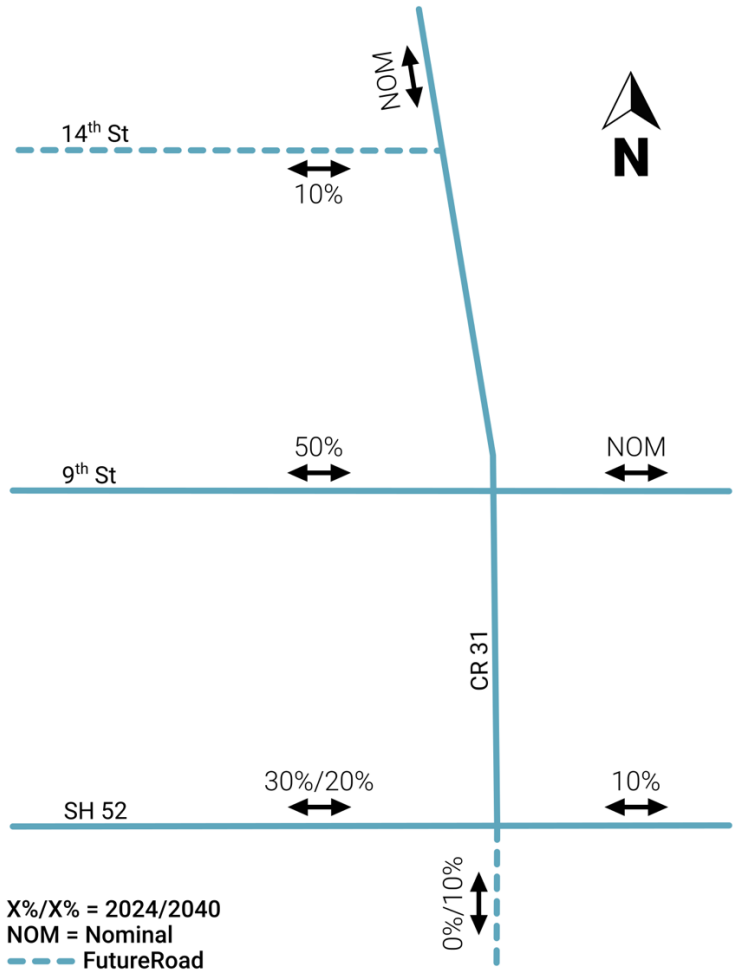
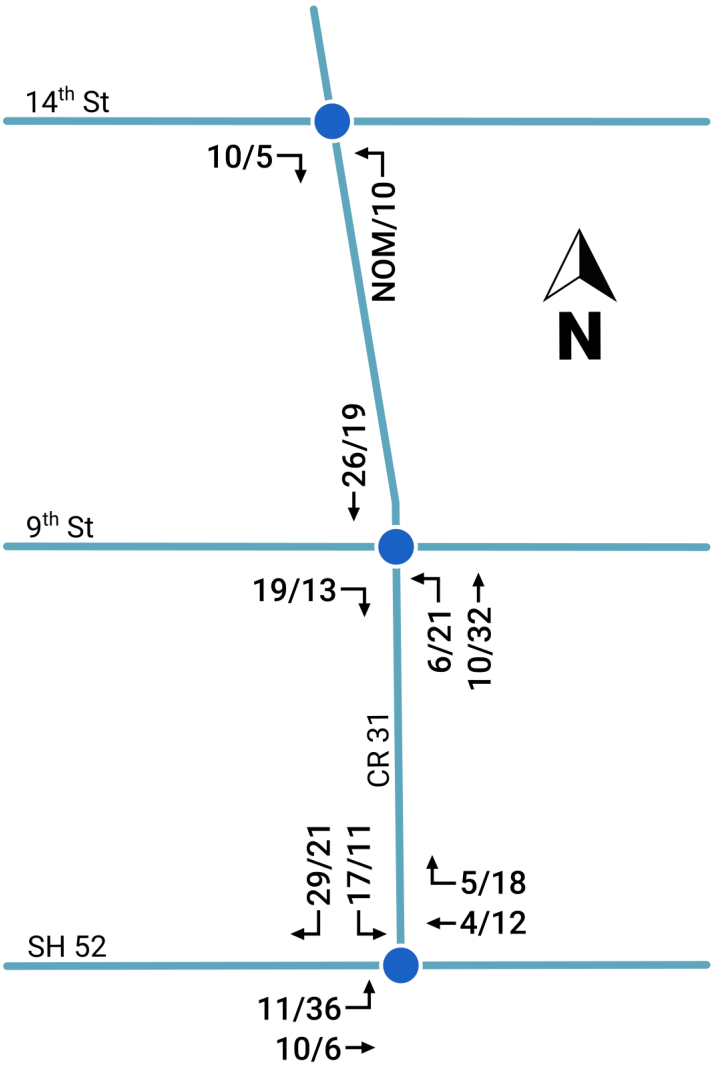


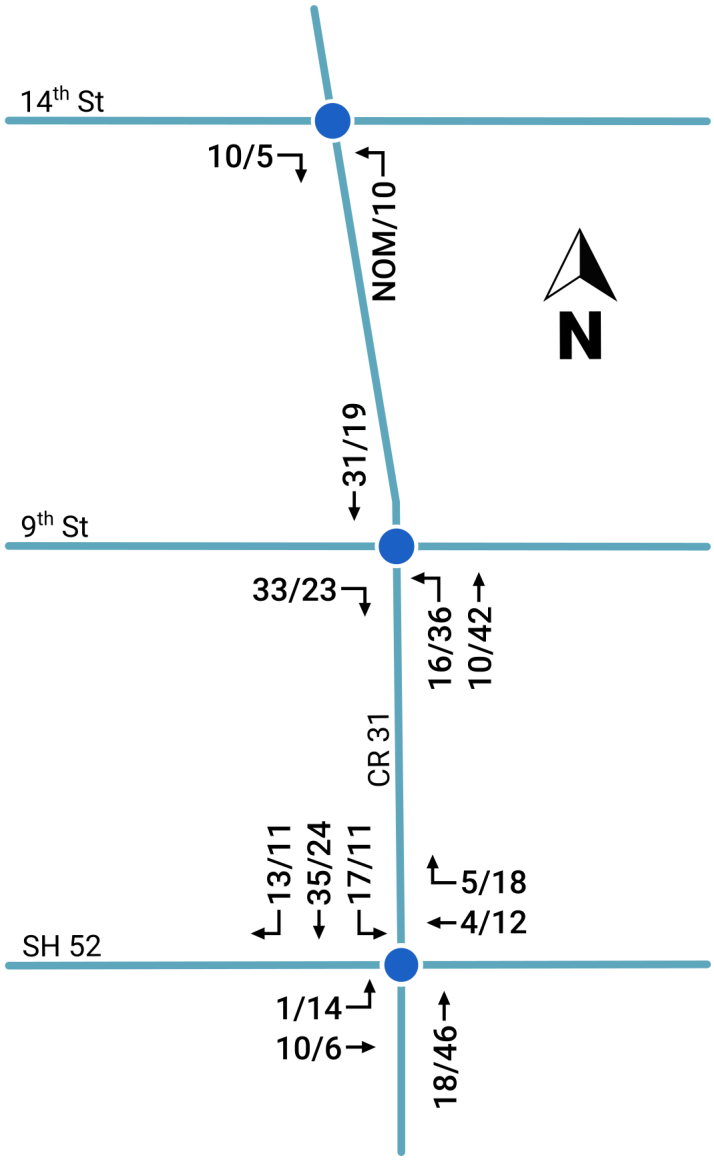
Figure 6 – Project Traffic - 2027



AM/PM Peak Hour Turning Movements

NOM = Nominal

Figure 7 – Project Traffic - 2040



AM/PM Peak Hour Turning Movements

NOM = Nominal

4 FUTURE TRAFFIC PROJECTIONS

Estimates of future traffic conditions both with and without the proposed Project were necessary to evaluate the potential impact of the Project on the local street system. The background base traffic scenario represents future traffic conditions without the addition of the Project, while the total scenario represents future traffic conditions with completion of the proposed Project. Two future years were analyzed Year 2027 and Year 2040. The development of these future traffic scenarios is described in this chapter.

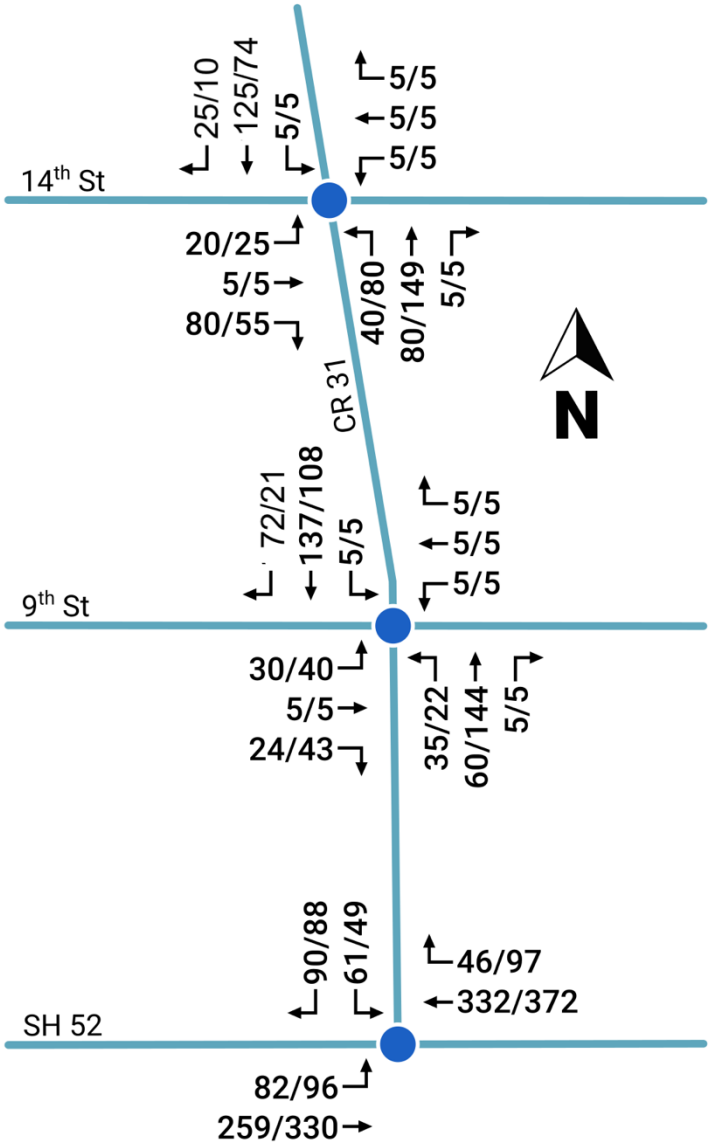
BACKGROUND 2027 TRAFFIC PROJECTIONS

The background traffic projections reflect growth in traffic from two primary sources: ambient growth in the existing traffic volumes due to regional growth both in and outside of the study area, and traffic generated by potential projects. The City requested that a project similar in size to the proposed Cottonwood Greens project be assumed for the land directly north of the project site. Additionally, the City anticipates two roadway improvements: 14th Street will be constructed to CR 31 by 2027, and College Avenue will be paved and improved between 9th Street and SH 52. Each of these elements is described below.

- The **ambient growth** in traffic was determined with information from the *Fort Lupton Transportation Plan,* June 2018. Based on these projections an annual straight-line growth rate of 1.7% per year was established for the short-range for each roadway except SH 52. It should be noted that the future projections were adjusted to account for traffic from the proposed project. This eliminates double counting the Project traffic which is already included in the future projections in the *Transportation Plan*. The growth rate for SH 52 was 3.4% per year. This value will be applied to the existing counts to determine the Year 2027 volumes due to regional growth.
- It was assumed that a project similar in size and use would be built on the land north of the Cottonwood Greens project. Access to/from this future project would be from 14th Street. Traffic was estimated and assigned to the roadway system to account for this potential project.
- Based on conversations with the City of Fort Lupton Public Works, 14th Street is expected to be built to CR 31 and College Avenue will be paved and improved between 9th Street and SH 52.

The resulting Background 2027 traffic projections for the study intersections are provided on Figure 8.

Figure 8 – Background Traffic 2027



AM/PM Peak Hour Turning Movements

BACKGROUND 2040 TRAFFIC PROJECTIONS

The traffic projections for 2040 were estimated using a similar methodology as for 2027. The City of Fort Lupton has plans for roadway improvements by Year 2040. Each of these components to the 2040 projections is discussed below.

- The **ambient growth** in traffic was based on the values developed for 2027. An annual straight-line growth of 1.7 % per year will be used for each roadway except for SH 52 which was 1% per year.
- Similar to 2027, it was assumed that a project similar in size and use would be built on the land north of the Cottonwood Greens project. Access to/from this future project would be from 14th Street. Traffic was estimated and assigned to the roadway system to account for this potential project.
- 14th Street was assumed to be built to CR 31 and College Avenue will be paved between 9th Street and SH 52.
- The City of Fort Lupton, *Transportation Plan* depicts CR 31 extended south of SH 52 to CR 8 by 2040.

The assumed intersection configurations for 2040 are illustrated on Figure 9. The resulting Background 2040 traffic projections for each of the study intersections are provided on Figure 10.

TOTAL TRAFFIC PROJECTIONS

The total traffic projections include both the background plus project traffic. Total traffic projections were developed for Years 2027 and 2040. The project-generated traffic volumes from Figure 7 were added to the Year 2027 background traffic volumes illustrated on Figure 9 to develop background plus project peak hour traffic volumes. The resulting Year 2027 total traffic is depicted on Figure 11.

The Year 2040 Total traffic projections were developed by adding the Project traffic from Figure 8 to the Year 2040 Background traffic from Figure 10. The resulting Year 2040 total traffic is illustrated on Figure 12.

INTERNAL SITE TRAFFIC

The Project site was designed to accommodate the traffic generated by the project. The City of Fort Lupton, within Chapter 6 of the *Standards and Specifications for the Design and Construction of Public Improvements,* has established that Local streets can accommodate up to 2,500 daily vehicular trips. It was estimated that the Local streets within Cottonwood Greens will accommodate between 700 and 1,500 daily trips at locations near their intersections with public roadways. The design of the internal streets as Locals is therefore appropriate. It should be noted that College Avenue is designed as a Collector Street.

Figure 9 – Lane Configurations 2040

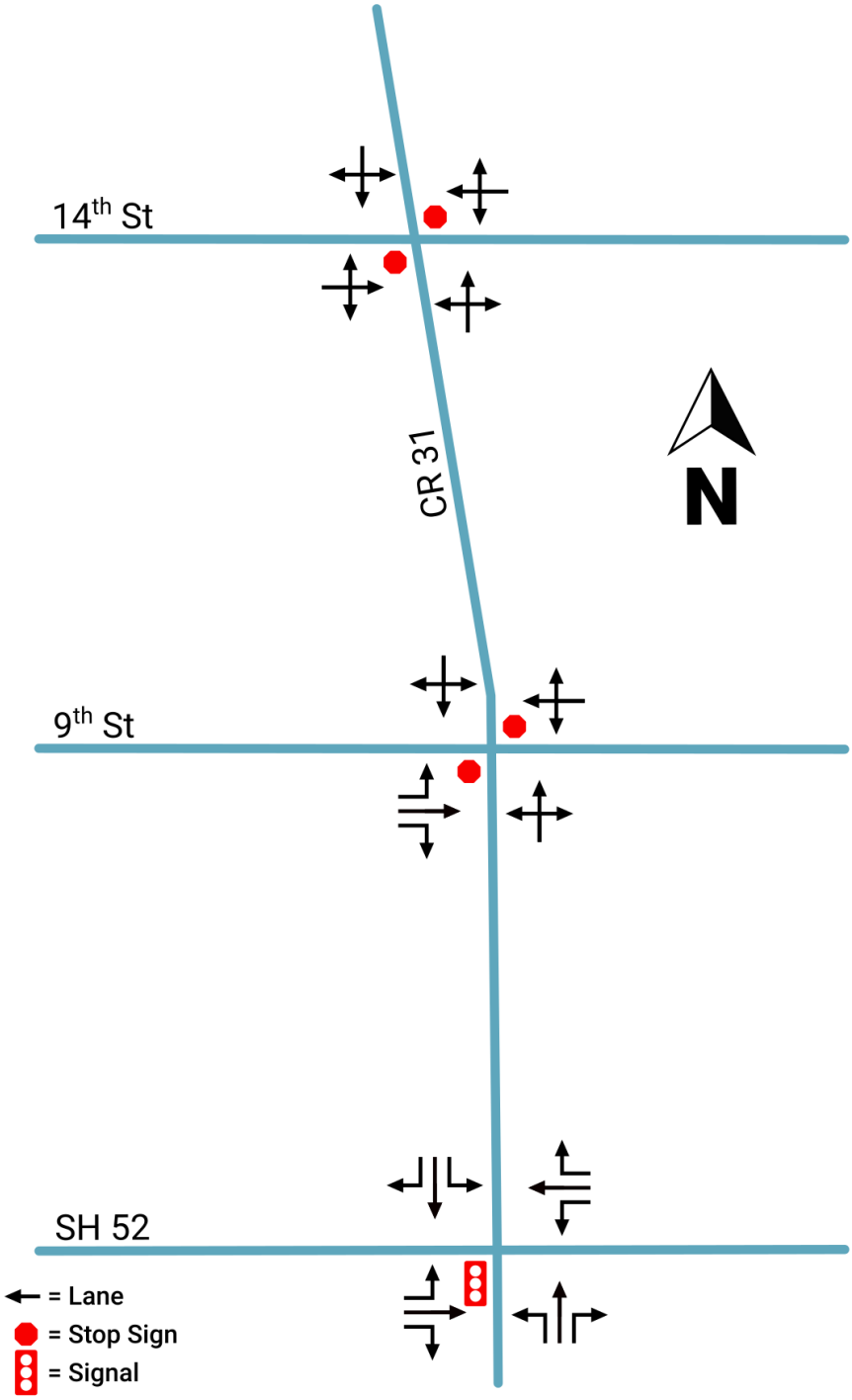
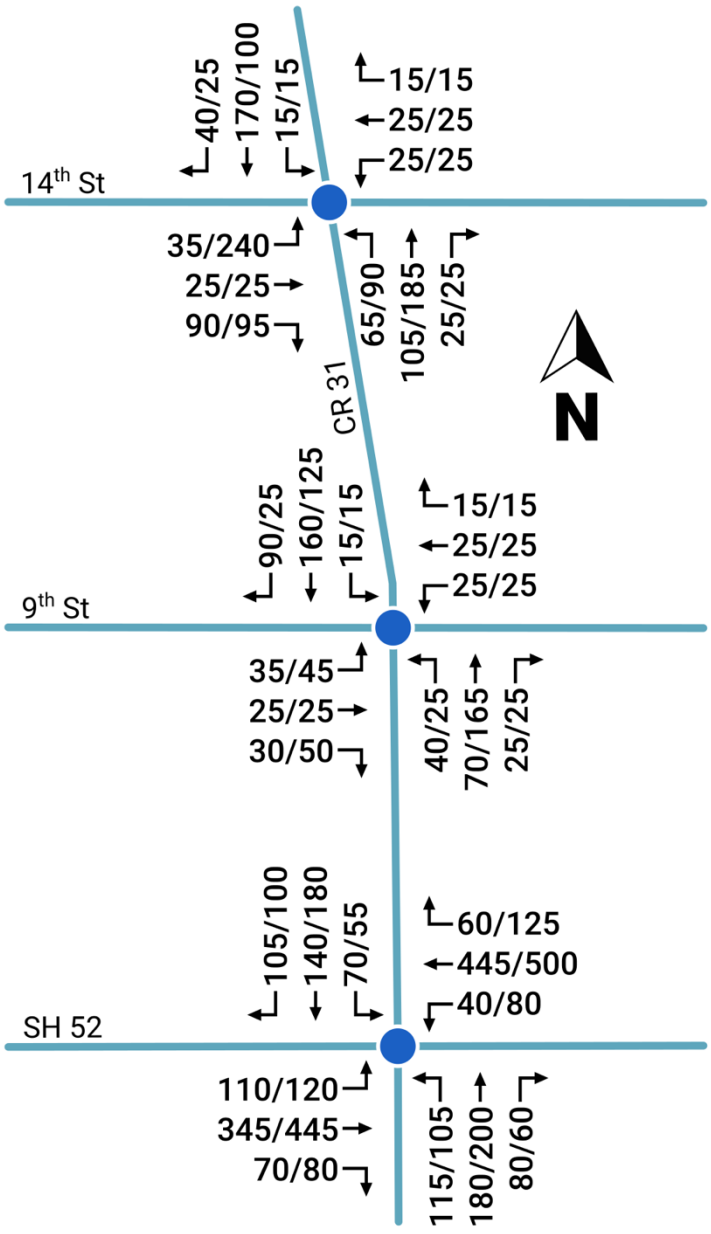
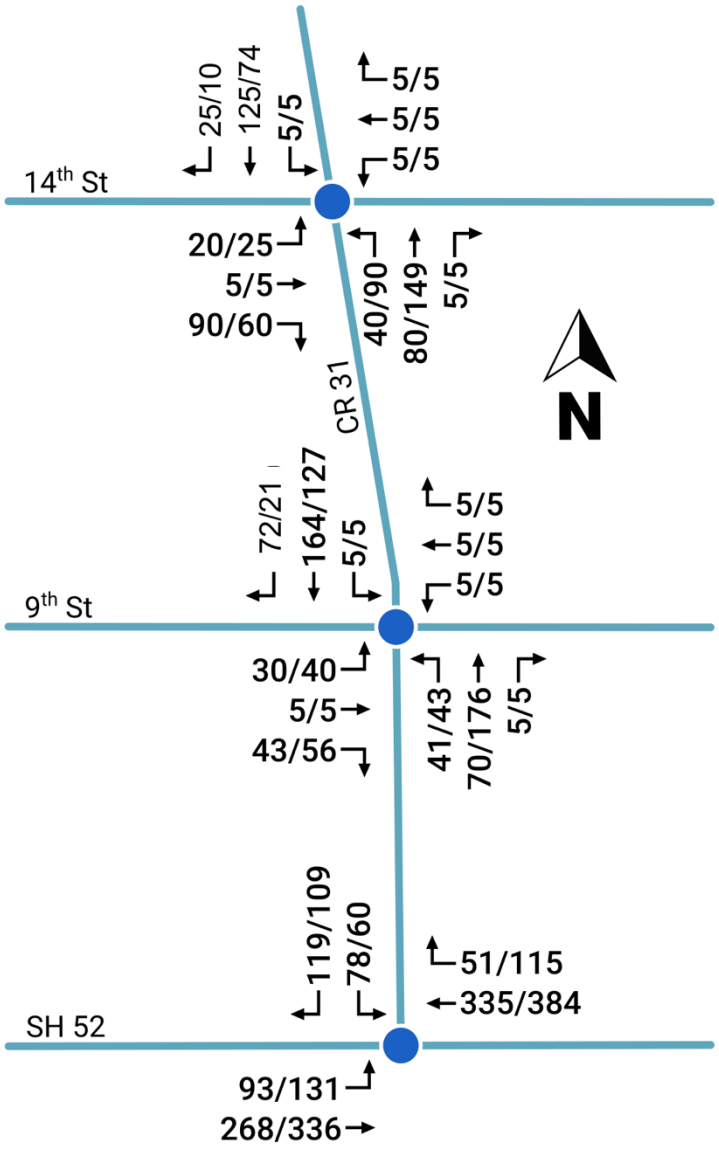


Figure 10 – Background Traffic 2040



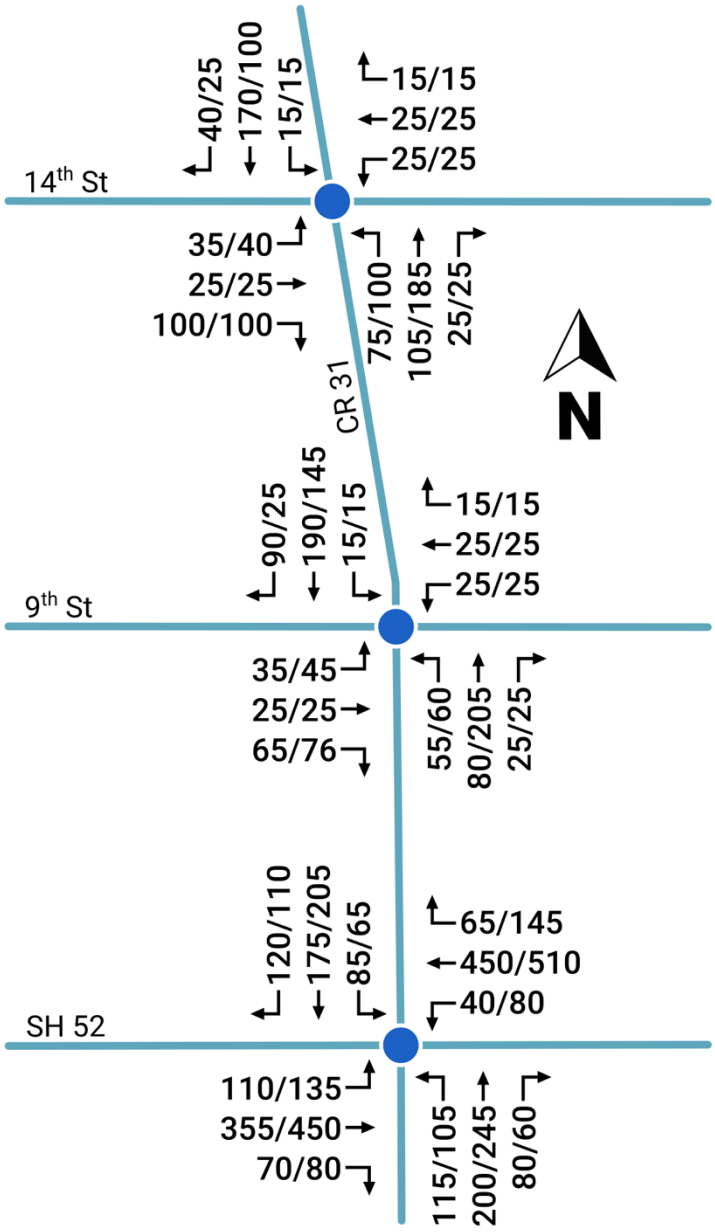
AM/PM Peak Hour Turning Movements

Figure 11 – Total Traffic 2027



AM/PM Peak Hour Turning Movements

Figure 12 – Total Traffic 2040



AM/PM Peak Hour Turning Movements

Volumes Rounded to Nearest 5 Vehicles

5 TRAFFIC IMPACT ANALYSIS

This chapter presents an analysis of the potential impacts of the traffic generated by the proposed Cottonwood Greens project on the local street system. The analysis compares the projected levels of service at each study intersection under future background and total conditions to estimate the incremental increase in the delay caused by the proposed project. This provides the information needed to assess the potential impact of the project using the significance criteria.

SIGNIFICANT TRAFFIC IMPACT CRITERIA

Threshold criteria were applied to determine if the growth in traffic due to regional growth/other projects and/or the proposed Project has a significant traffic impact at an intersection. If the future traffic projections for either Background (without Project) or Total (with Project) resulted in any portion of an intersection exceeding the LOS standards, this would be considered an impact.

As presented earlier, based on the City of Fort Lupton standards, LOS C is the design objective for all movements at an intersection. Level of service less than D is unacceptable.

FUTURE TRAFFIC CONDITIONS

The future traffic projections at the three study intersections were analyzed to determine their future operating conditions. The results for Year 2027 are provided in Table 5 for both the background and total traffic scenarios. The future operating conditions for Year 2040 are provided in Table 6.

It should be noted that under 2040 conditions, the intersection of CR 31 and SH 52 was projected to have peak hour volumes that would warrant signalization. The operational analysis for this location was performed assuming it was signalized. The need for a traffic signal is documented in the Federal Highways Administration, *Manual On Uniform Traffic Control Devices* (MUTCD), 2009. The Peak Hour - Warrant 3 is provided in Appendix C.

Note that the results provided in Tables 5 and 6 indicate both the overall LOS for the intersection and the LOS for each constrained movement and/or leg. If an intersection, a movement, or leg is projected to operate at unacceptable levels it is highlighted in grey.

Table 5 Future 2027 Intersection Level of Service

#	Intersection	Movement	AM Peak Hr		PM Peak Hr	
			Background	Total	Background	Total
1	CR 31 & SH 52 T Stop Control	Overall	A	A	A	A
		EB LT	A	A	A	A
		SB	C	C	C	C
2	CR 31 & 9th Street Two Way Stop Control	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB LT	B	B	B	B
		EB T	B	B	B	B
		EB RT	A	A	A	A
		WB	B	B	B	B
		SB LT	A	A	A	A
3	CR 31 & 14th Street (To be Built) Two Way Stop Control	Overall	A	A	A	A
		NB	A	A	A	A
		EB	B	B	B	B
		WB	B	B	B	B
		SB	A	A	A	A

Notes:

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement or approach.

Table 6 Future 2040 Intersection Level of Service

#	Intersection	Movement	AM Peak Hr		PM Peak Hr	
			Background	Total	Background	Total
1	CR 31 & SH 52 Signalized	Overall	B	B	B	B
		EB LT	B	B	B	B
		EB T	A	B	B	B
		EB RT	A	A	A	A
		WB LT	B	B	B	B
		WB T	C	C	C	C
		WB RT	B	B	B	B
		NB LT	B	B	C	C
		NB T	B	B	B	C
		NB RT	B	B	B	C
		SB LT	B	B	B	B
		SB T	B	B	B	B
		SB RT	B	B	B	B
2	CR 31 & 9th Street Two Way Stop Control	Overall	A	A	A	A
		NB LT	A	A	A	A
		EB LT	B	B	B	C
		EB T	B	B	B	B
		EB RT	A	B	A	A
		WB	B	B	B	C
		SB LT	A	A	A	A
3	CR 31 & 14th Street (To be Built) Two Way Stop Control	Overall	A	A	A	A
		NB	A	A	A	A
		EB	B	B	B	B
		WB	B	C	C	C
		SB	A	A	A	A

Notes:

1. LOS calculations performed using Synchro which is based on the Transportation Research Board HCM 2016.
2. LOS is reported for both overall intersection and each constrained STOP-controlled movement, lane group (signalized), or approach.

The analysis indicates that the future intersection operations for both years 2027 and 2040 will operate acceptably. For the intersection of CR 31 at SH 52 signalization was assumed for the year 2040. The Total 2040 traffic volume projections (for the AM plus PM peak hours) were evaluated to determine the relative percentage of Project and Background volumes. These are shown on Table 8.

Table 8 - 2040 Percent Contribution

#	Intersection	Total Volumes (AM + PM)	Background		Project	
			Volume	Percent	Volume	Percent
1	CR 31 & SH 52 Signalized	4055	3810	94%	245	6%

6 AUXILIARY LANE ANALYSIS

An analysis was conducted to determine the need for auxiliary right-turn and left-turn lanes at the Project access locations. This analysis was performed for both 2027 and 2040. The projected peak hour traffic volumes at these locations are provided in Appendix D for both 2027 and 2040. The turning volumes were analyzed based on the guidelines set forth in the Transportation Research Board's *NCHRP Report 279*, 1985 provided in Appendix D.

Using the figures shown in Appendix D, it was determined that no auxiliary lanes are warranted under both future scenarios, years 2027 and 2040.

7 CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed Cottonwood Greens PUD project in the City of Fort Lupton. The following summarizes the results of this analysis:

- The full buildout proposed Project consists of 404 single family homes and 137 townhomes.
- The Project site is located north of 9th Street and west of CR 31 on undeveloped land.
- The Project is expected to generate approximately 4,600 daily trips, 330 morning, and 450 evening peak hour trips.
- Currently, the study intersections on CR 31 at both SH 52 and 9th Street are operating at acceptable levels.
- For 2027 it was assumed that 14th Street would connect from its' current terminus east to CR 31 and College Avenue would be paved between 9th Street to SH 52.
- Under the future 2027 conditions, the study intersections are projected to operate acceptably.
- Under the future 2040 conditions, it was assumed that CR 31 would be extended south of SH 52 and be signalized. The future intersection operations at the study intersections are projected to operate acceptably.

APPENDICIES

- Appendix A: Intersection Turning Movement Count Data (October 11, 2018)
- Appendix B: HCM LOS Calculation Outputs
- Appendix C: Figure and Table 4C-3 Manual on Uniform Traffic Control Devices
- Appendix D: Project Access 2027 and 2040 Volumes and NCHRP Report 279

Appendix A
Intersection Turning Movement Count Data (April 24, 2019)

Location: WCR 31 N/O 9TH ST
Date Range: 4/24/2019 - 4/30/2019
Site Code: 01

	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday					
	4/24/2019			4/25/2019			4/26/2019			4/27/2019			4/28/2019			4/29/2019			4/30/2019			Mid-Week Average		
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
1:00 AM	4	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8
2:00 AM	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	6
3:00 AM	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	4
4:00 AM	7	9	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	9	16
5:00 AM	35	39	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	39	74
6:00 AM	57	50	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	50	107
7:00 AM	67	149	216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	149	216
8:00 AM	52	75	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	75	127
9:00 AM	40	59	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	59	99
10:00 AM	65	67	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	67	132
11:00 AM	81	74	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	74	155
12:00 PM	73	82	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	82	155
1:00 PM	72	54	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	54	126
2:00 PM	88	93	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	93	181
3:00 PM	118	67	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	67	185
4:00 PM	129	86	215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	86	215
5:00 PM	118	90	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	90	208
6:00 PM	110	68	178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	68	178
7:00 PM	81	46	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	46	127
8:00 PM	53	43	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	43	96
9:00 PM	32	14	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	14	46
10:00 PM	21	6	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	6	27
11:00 PM	7	2	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	9
Total	**1,316**	**1,185**	**2,501**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,316**	**1,185**	**2,501**
Percent	**53%**	**47%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**53%**	**47%**	-

1. Mid-week average includes data between Tuesday and Thursday.

Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

Location: 9TH ST W/O WCR 31
Date Range: 4/24/2019 - 4/30/2019
Site Code: 02

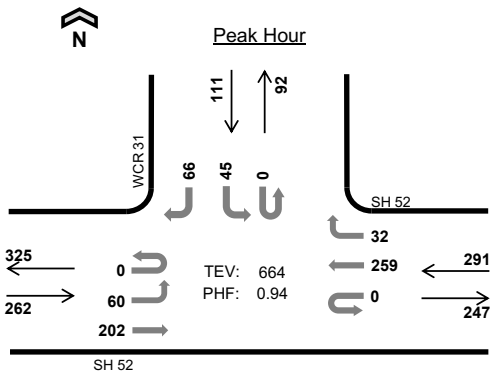
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	4/24/2019			4/25/2019			4/26/2019			4/27/2019			4/28/2019			4/29/2019			4/30/2019			Mid-Week Average		
Time	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
1:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
2:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
3:00 AM	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
4:00 AM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
5:00 AM	28	8	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	8	36
6:00 AM	37	18	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	18	55
7:00 AM	44	86	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	86	130
8:00 AM	28	46	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	46	74
9:00 AM	37	46	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	46	83
10:00 AM	45	41	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	41	86
11:00 AM	52	35	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	35	87
12:00 PM	44	32	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	32	76
1:00 PM	32	41	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	41	73
2:00 PM	50	52	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	52	102
3:00 PM	66	41	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	41	107
4:00 PM	67	34	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	34	101
5:00 PM	40	41	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	41	81
6:00 PM	28	34	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	34	62
7:00 PM	19	19	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	19	38
8:00 PM	13	11	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	11	24
9:00 PM	6	8	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8	14
10:00 PM	14	4	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	18
11:00 PM	3	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5
Total	**659**	**603**	**1,262**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**659**	**603**	**1,262**
Percent	**52%**	**48%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**52%**	**48%**	-

1. Mid-week average includes data between Tuesday and Thursday.

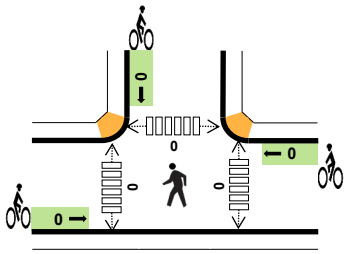
Mark Skaggs:425-250-0777
mark.skaggs@idaxdata.com

www.idaxdata.com TMC1

WCR 31
SH 52



Date: Wed, Apr 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	11.1%	0.85
WB	15.8%	0.93
NB	-	-
SB	5.4%	0.79
TOTAL	12.2%	0.94

Two-Hour Count Summaries

Interval Start	SH 52 Eastbound				SH 52 Westbound				0 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	5	51	0	0	0	56	11	0	0	0	0	0	14	0	9	146	0
7:15 AM	**0**	**11**	**49**	**0**	**0**	**0**	**71**	**4**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**14**	**160**	0
7:30 AM	**0**	**6**	**49**	**0**	**0**	**0**	**66**	**12**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**23**	**168**	0
7:45 AM	**0**	**21**	**49**	**0**	**0**	**0**	**67**	**6**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**20**	**176**	650
8:00 AM	**0**	**22**	**55**	**0**	**0**	**0**	**55**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**9**	**160**	**664**
8:15 AM	0	11	31	0	0	0	59	5	0	0	0	0	0	9	0	14	129	633
8:30 AM	0	10	44	0	0	0	62	7	0	0	0	0	0	5	0	12	140	605
8:45 AM	0	10	50	0	0	0	49	7	0	0	0	0	0	5	0	13	134	563
Count Total	0	96	378	0	0	0	485	62	0	0	0	0	0	78	0	114	1,213	0
Peak Hour	**0**	**60**	**202**	**0**	**0**	**0**	**259**	**32**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**66**	**664**	**0**

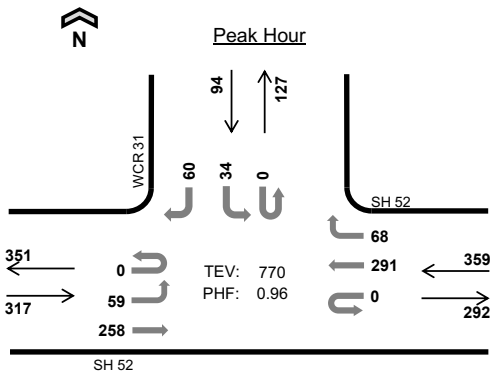
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	7	13	0	2	*22*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**8**	**7**	**0**	**0**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**4**	**12**	**0**	**1**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**11**	**10**	**0**	**4**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**6**	**17**	**0**	**1**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	5	9	0	1	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	17	7	0	2	*26*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	10	8	0	1	*19*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	68	83	0	12	*163*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**29**	**46**	**0**	**6**	***81***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

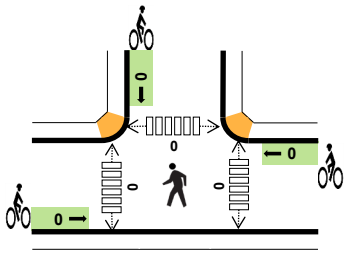
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

www.idaxdata.com TMC1

WCR 31
SH 52



Date: Wed, Apr 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	7.6%	0.89
WB	7.0%	0.99
NB	-	-
SB	1.1%	0.78
TOTAL	6.5%	0.96

Two-Hour Count Summaries

Interval Start	SH 52 Eastbound				SH 52 Westbound				0 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	21	59	0	0	0	60	9	0	0	0	0	0	10	0	18	177	0
4:15 PM	0	12	72	0	0	0	49	13	0	0	0	0	0	7	0	17	170	0
4:30 PM	0	15	71	0	0	0	52	13	0	0	0	0	0	10	0	19	180	0
4:45 PM	0	23	64	0	0	0	57	11	0	0	0	0	0	10	0	22	187	714
5:00 PM	**0**	**18**	**71**	**0**	**0**	**0**	**79**	**12**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**10**	**200**	737
5:15 PM	**0**	**17**	**62**	**0**	**0**	**0**	**73**	**16**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**15**	**191**	758
5:30 PM	**0**	**10**	**60**	**0**	**0**	**0**	**71**	**19**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**21**	**190**	768
5:45 PM	**0**	**14**	**65**	**0**	**0**	**0**	**68**	**21**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**14**	**189**	**770**
Count Total	0	130	524	0	0	0	509	114	0	0	0	0	0	71	0	136	1,484	0
Peak Hour	**0**	**59**	**258**	**0**	**0**	**0**	**291**	**68**	**0**	**0**	**0**	**0**	**0**	**34**	**0**	**60**	**770**	**0**

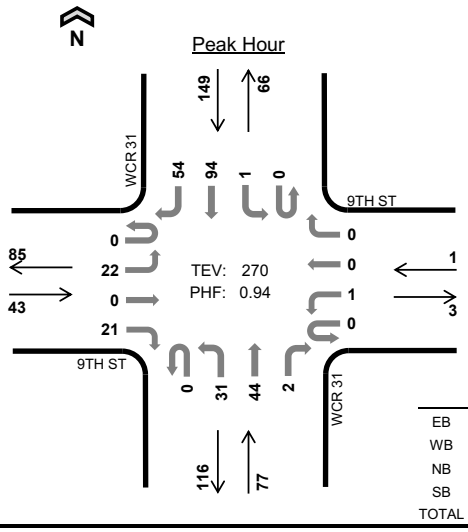
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	8	4	0	1	*13*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	11	5	0	2	*18*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	6	9	0	0	*15*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	3	5	0	2	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	**8**	**10**	**0**	**0**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**6**	**4**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**4**	**3**	**0**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**6**	**8**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	52	48	0	6	*106*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**24**	**25**	**0**	**1**	***50***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

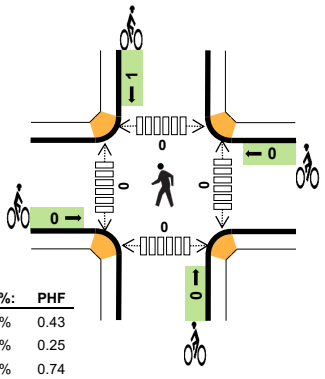
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

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WCR 31
9TH ST



Date: Wed, Apr 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	2.3%	0.43
WB	0.0%	0.25
NB	2.6%	0.74
SB	7.4%	0.89
TOTAL	5.2%	0.94

Two-Hour Count Summaries

Interval Start	9TH ST Eastbound				9TH ST Westbound				WCR 31 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**7**	**8**	**1**	**0**	**0**	**19**	**18**	**58**	0
7:15 AM	**0**	**16**	**0**	**9**	**0**	**1**	**0**	**0**	**0**	**5**	**10**	**0**	**0**	**0**	**15**	**16**	**72**	0
7:30 AM	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**9**	**11**	**0**	**0**	**1**	**31**	**10**	**68**	0
7:45 AM	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**10**	**15**	**1**	**0**	**0**	**29**	**10**	**72**	**270**
8:00 AM	0	1	1	1	0	1	0	0	0	11	19	0	0	0	16	2	52	264
8:15 AM	0	4	0	7	0	1	0	0	0	9	7	3	0	0	14	2	47	239
8:30 AM	0	2	1	3	0	0	0	2	0	4	9	0	0	2	15	6	44	215
8:45 AM	0	0	0	6	0	0	0	0	0	9	10	2	0	1	12	4	44	187
Count Total	0	29	2	38	0	3	0	2	0	64	89	7	0	4	151	68	457	0
Peak Hour	**0**	**22**	**0**	**21**	**0**	**1**	**0**	**0**	**0**	**31**	**44**	**2**	**0**	**1**	**94**	**54**	**270**	**0**

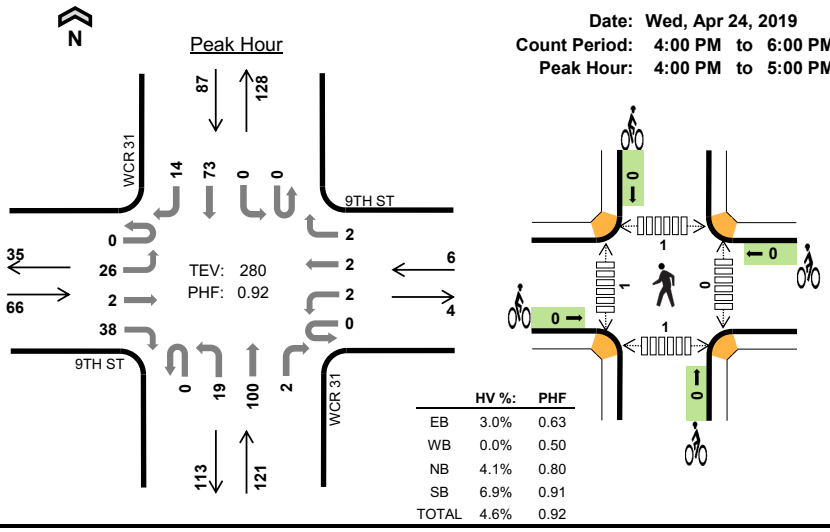
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**4**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	4	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	1	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	1	1	10	16	*28*	0	0	0	1	*1*	0	0	0	0	*0*
Peak Hour	**1**	**0**	**2**	**11**	***14***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***

Nathan Warren: (720) 646-1008 nathan.warren@idaxdata.com

www.idaxdata.com TMC2

WCR 31
9TH ST



Date: Wed, Apr 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Two-Hour Count Summaries

Interval Start	9TH ST Eastbound				9TH ST Westbound				WCR 31 Northbound				WCR 31 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**5**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**26**	**0**	**0**	**0**	**19**	**5**	**68**	0
4:15 PM	**0**	**6**	**1**	**10**	**0**	**0**	**1**	**1**	**0**	**5**	**21**	**0**	**0**	**0**	**14**	**4**	**63**	0
4:30 PM	**0**	**13**	**0**	**13**	**0**	**1**	**1**	**1**	**0**	**5**	**19**	**2**	**0**	**0**	**16**	**5**	**76**	0
4:45 PM	**0**	**2**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**4**	**34**	**0**	**0**	**0**	**24**	**0**	**73**	**280**
5:00 PM	0	5	0	7	0	1	0	0	0	4	25	0	0	0	12	4	58	270
5:15 PM	0	3	0	5	0	1	0	0	0	5	26	0	0	0	19	7	66	273
5:30 PM	0	6	0	6	0	0	0	1	0	8	21	0	0	0	22	6	70	267
5:45 PM	0	2	2	2	0	0	0	0	0	7	30	0	0	0	19	1	63	257
Count Total	0	42	4	58	0	4	2	3	0	43	202	2	0	0	145	32	537	0
Peak Hour	**0**	**26**	**2**	**38**	**0**	**2**	**2**	**2**	**0**	**19**	**100**	**2**	**0**	**0**	**73**	**14**	**280**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**0**	**3**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
4:45 PM	**1**	**0**	**2**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
5:00 PM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	6	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	0	14	7	*23*	0	0	0	0	*0*	0	1	1	1	*3*
Peak Hour	**2**	**0**	**5**	**6**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	***3***

Nathan Warren: (720) 646-1008 nathan.warren@idaxdata.com

Appendix B
Level of Service Worksheets

EXISTING

HCM 6th TWSC
1: SH 52 & CR 31 05/02/2019

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	202	259	32	45	66
Future Vol, veh/h	60	202	259	32	45	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	220	282	35	49	72

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	317	0	-	0	632	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1243	-	-	-	444	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1243	-	-	-	421	757
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1243	-	-	-	572
HCM Lane V/C Ratio	0.052	-	-	-	0.211
HCM Control Delay (s)	8.1	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

HCM 6th TWSC
1: SH 52 & CR 31 05/02/2019

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	59	258	291	68	34	60
Future Vol, veh/h	59	258	291	68	34	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	280	316	74	37	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	390	0	-	0	724	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1169	-	-	-	393	724
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1169	-	-	-	371	724
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1169	-	-	-	539
HCM Lane V/C Ratio	0.055	-	-	-	0.19
HCM Control Delay (s)	8.3	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7

HCM 6th TWSC
2: CR 31 & 9th Street 05/01/2019

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	0	21	1	0	0	31	44	2	1	94	54
Future Vol, veh/h	22	0	21	1	0	0	31	44	2	1	94	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage,#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	23	1	0	0	34	48	2	1	102	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	251	252	132	262	280	49	161	0	0	50	0	0
Stage 1	134	134	-	117	117	-	-	-	-	-	-	-
Stage 2	117	118	-	145	163	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	702	651	917	691	628	1020	1418	-	-	1557	-	-
Stage 1	869	785	-	888	799	-	-	-	-	-	-	-
Stage 2	888	798	-	858	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	688	634	917	661	612	1020	1418	-	-	1557	-	-
Mov Cap-2 Maneuver	688	634	-	661	612	-	-	-	-	-	-	-
Stage 1	847	784	-	866	779	-	-	-	-	-	-	-
Stage 2	866	778	-	836	762	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	10.5	3.1	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	688	-	917	661	1557	-	-
HCM Lane V/C Ratio	0.024	-	-	0.035	-	0.025	0.002	0.001	-	-
HCM Control Delay (s)	7.6	0	-	10.4	0	9	10.5	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0.1	0	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 05/01/2019

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	2	38	2	2	2	19	100	2	0	73	14
Future Vol, veh/h	26	2	38	2	2	2	19	100	2	0	73	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage,#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	2	41	2	2	2	21	109	2	0	79	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	241	240	87	260	246	110	94	0	0	111	0	0
Stage 1	87	87	-	152	152	-	-	-	-	-	-	-
Stage 2	154	153	-	108	94	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	713	661	971	693	656	943	1500	-	-	1479	-	-
Stage 1	921	823	-	850	772	-	-	-	-	-	-	-
Stage 2	848	771	-	897	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	702	651	971	654	646	943	1500	-	-	1479	-	-
Mov Cap-2 Maneuver	702	651	-	654	646	-	-	-	-	-	-	-
Stage 1	907	823	-	837	760	-	-	-	-	-	-	-
Stage 2	831	759	-	857	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10	1.2	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	702	651	971	725	1479	-	-
HCM Lane V/C Ratio	0.014	-	-	0.04	0.003	0.043	0.009	-	-	-
HCM Control Delay (s)	7.4	0	-	10.3	10.5	8.9	10	0	-	-
HCM Lane LOS	A	A	-	B	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0	0	-	-

BACKGROUND 2027

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection						
Int Delay, s/veh	3.7					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	82	259	332	46	61	90
Future Vol, veh/h	82	259	332	46	61	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	282	361	50	66	98

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	411	0	-	0	821	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	460	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1148	-	-	-	344	684
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1148	-	-	-	317	684
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1148	-	-	-	466
HCM Lane V/C Ratio	0.078	-	-	-	0.352
HCM Control Delay (s)	8.4	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.6

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	330	372	97	49	88
Future Vol, veh/h	96	330	372	97	49	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	359	404	105	53	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	509	0	-	0	971	404
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1056	-	-	-	280	647
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1056	-	-	-	253	647
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	416
HCM Lane V/C Ratio	0.099	-	-	-	0.358
HCM Control Delay (s)	8.8	-	-	-	18.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.6

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	2.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	24	5	5	5	35	60	5	5	137	72
Future Vol, veh/h	30	5	24	5	5	5	35	60	5	5	137	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	5	26	5	5	5	38	65	5	5	149	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	347	344	188	358	381	68	227	0	0	70	0	0
Stage 1	198	198	-	144	144	-	-	-	-	-	-	-
Stage 2	149	146	-	214	237	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	607	579	854	597	552	995	1341	-	-	1531	-	-
Stage 1	804	737	-	859	778	-	-	-	-	-	-	-
Stage 2	854	776	-	788	709	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	583	559	854	559	533	995	1341	-	-	1531	-	-
Mov Cap-2 Maneuver	583	559	-	559	533	-	-	-	-	-	-	-
Stage 1	780	734	-	833	755	-	-	-	-	-	-	-
Stage 2	818	753	-	755	706	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.8	2.7	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	583	559	854	642	1531	-	-
HCM Lane V/C Ratio	0.028	-	-	0.056	0.01	0.031	0.025	0.004	-	-
HCM Control Delay (s)	7.8	0	-	11.5	11.5	9.3	10.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.1	0.1	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	5	43	5	5	5	22	144	5	5	108	21
Future Vol, veh/h	40	5	43	5	5	5	22	144	5	5	108	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	47	5	5	5	24	157	5	5	117	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	352	349	129	373	358	160	140	0	0	162	0	0
Stage 1	139	139	-	208	208	-	-	-	-	-	-	-
Stage 2	213	210	-	165	150	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	603	575	921	584	568	885	1443	-	-	1417	-	-
Stage 1	864	782	-	794	730	-	-	-	-	-	-	-
Stage 2	789	728	-	837	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	585	562	921	541	556	885	1443	-	-	1417	-	-
Mov Cap-2 Maneuver	585	562	-	541	556	-	-	-	-	-	-	-
Stage 1	848	779	-	780	717	-	-	-	-	-	-	-
Stage 2	764	715	-	786	770	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.9	1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1443	-	-	585	562	921	628	1417	-	-
HCM Lane V/C Ratio	0.017	-	-	0.074	0.01	0.051	0.026	0.004	-	-
HCM Control Delay (s)	7.5	0	-	11.6	11.5	9.1	10.9	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.2	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	5	80	5	5	5	40	80	5	5	125	25
Future Vol, veh/h	20	5	80	5	5	5	40	80	5	5	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	5	87	5	5	5	43	87	5	5	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	341	338	150	382	349	90	163	0	0	92	0	0
Stage 1	160	160	-	176	176	-	-	-	-	-	-	-
Stage 2	181	178	-	206	173	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	613	583	896	576	575	968	1416	-	-	1503	-	-
Stage 1	842	766	-	826	753	-	-	-	-	-	-	-
Stage 2	821	752	-	796	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	562	896	502	554	968	1416	-	-	1503	-	-
Mov Cap-2 Maneuver	588	562	-	502	554	-	-	-	-	-	-	-
Stage 1	815	763	-	800	729	-	-	-	-	-	-	-
Stage 2	784	728	-	711	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11	2.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	794	621	1503	-	-
HCM Lane V/C Ratio	0.031	-	-	0.144	0.026	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.3	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	55	5	5	5	80	149	5	5	74	10
Future Vol, veh/h	25	5	55	5	5	5	80	149	5	5	74	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	5	60	5	5	5	87	162	5	5	80	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	440	437	86	467	440	165	91	0	0	167	0	0
Stage 1	96	96	-	339	339	-	-	-	-	-	-	-
Stage 2	344	341	-	128	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	527	513	973	506	511	879	1504	-	-	1411	-	-
Stage 1	911	815	-	676	640	-	-	-	-	-	-	-
Stage 2	671	639	-	876	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	492	478	973	446	476	879	1504	-	-	1411	-	-
Mov Cap-2 Maneuver	492	478	-	446	476	-	-	-	-	-	-	-
Stage 1	853	812	-	633	599	-	-	-	-	-	-	-
Stage 2	619	598	-	813	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	11.8	2.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	722	547	1411	-	-
HCM Lane V/C Ratio	0.058	-	-	0.128	0.03	0.004	-	-
HCM Control Delay (s)	7.5	0	-	10.7	11.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.1	0	-	-

TOTAL 2027

HCM 6th TWSC
1: SH 52 & CR 31 01/23/2022

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	93	268	335	51	78	119
Future Vol, veh/h	93	268	335	51	78	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	101	291	364	55	85	129

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	419	0	-	0	857	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	493	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1140	-	-	-	328	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	614	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1140	-	-	-	299	681
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	19.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1140	-	-	-	452
HCM Lane V/C Ratio	0.089	-	-	-	0.474
HCM Control Delay (s)	8.5	-	-	-	19.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.5

HCM 6th TWSC
1: SH 52 & CR 31 01/24/2022

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	131	336	384	115	60	109
Future Vol, veh/h	131	336	384	115	60	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	365	417	125	65	118

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	542	0	-	0	1066	417
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	649	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1027	-	-	-	246	636
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1027	-	-	-	212	636
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	520	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1027	-	-	-	372
HCM Lane V/C Ratio	0.139	-	-	-	0.494
HCM Control Delay (s)	9.1	-	-	-	23.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	2.6

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	5	43	5	5	5	41	70	5	5	164	72
Future Vol, veh/h	30	5	43	5	5	5	41	70	5	5	164	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	5	47	5	5	5	45	76	5	5	178	78

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	401	398	217	422	435	79	256	0	0	81	0	0
Stage 1	227	227	-	169	169	-	-	-	-	-	-	-
Stage 2	174	171	-	253	266	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	560	540	823	542	514	981	1309	-	-	1517	-	-
Stage 1	776	716	-	833	759	-	-	-	-	-	-	-
Stage 2	828	757	-	751	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	535	518	823	492	493	981	1309	-	-	1517	-	-
Mov Cap-2 Maneuver	535	518	-	492	493	-	-	-	-	-	-	-
Stage 1	748	713	-	803	732	-	-	-	-	-	-	-
Stage 2	788	730	-	700	686	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.3	2.8	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1309	-	-	535	518	823	591	1517	-	-
HCM Lane V/C Ratio	0.034	-	-	0.061	0.01	0.057	0.028	0.004	-	-
HCM Control Delay (s)	7.8	0	-	12.2	12	9.6	11.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0.2	0.1	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	3.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	5	56	5	5	5	43	176	5	5	127	21
Future Vol, veh/h	40	5	56	5	5	5	43	176	5	5	127	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	5	61	5	5	5	47	191	5	5	138	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	453	450	150	481	459	194	161	0	0	196	0	0
Stage 1	160	160	-	288	288	-	-	-	-	-	-	-
Stage 2	293	290	-	193	171	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	517	504	896	495	499	847	1418	-	-	1377	-	-
Stage 1	842	766	-	720	674	-	-	-	-	-	-	-
Stage 2	715	672	-	809	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	493	483	896	443	479	847	1418	-	-	1377	-	-
Mov Cap-2 Maneuver	493	483	-	443	479	-	-	-	-	-	-	-
Stage 1	811	763	-	693	649	-	-	-	-	-	-	-
Stage 2	678	647	-	746	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	11.8	1.5	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	493	483	896	543	1377	-	-
HCM Lane V/C Ratio	0.033	-	-	0.088	0.011	0.068	0.03	0.004	-	-
HCM Control Delay (s)	7.6	0	-	13	12.5	9.3	11.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0.2	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	5	90	5	5	5	40	80	5	5	125	25
Future Vol, veh/h	20	5	90	5	5	5	40	80	5	5	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	5	98	5	5	5	43	87	5	5	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	341	338	150	387	349	90	163	0	0	92	0	0
Stage 1	160	160	-	176	176	-	-	-	-	-	-	-
Stage 2	181	178	-	211	173	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	613	583	896	572	575	968	1416	-	-	1503	-	-
Stage 1	842	766	-	826	753	-	-	-	-	-	-	-
Stage 2	821	752	-	791	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	588	562	896	492	554	968	1416	-	-	1503	-	-
Mov Cap-2 Maneuver	588	562	-	492	554	-	-	-	-	-	-	-
Stage 1	815	763	-	800	729	-	-	-	-	-	-	-
Stage 2	784	728	-	697	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11	2.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	802	616	1503	-	-
HCM Lane V/C Ratio	0.031	-	-	0.156	0.026	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.3	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.1	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	60	5	5	5	90	149	5	5	74	10
Future Vol, veh/h	25	5	60	5	5	5	90	149	5	5	74	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	5	65	5	5	5	98	162	5	5	80	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	462	459	86	492	462	165	91	0	0	167	0	0
Stage 1	96	96	-	361	361	-	-	-	-	-	-	-
Stage 2	366	363	-	131	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	510	499	973	487	497	879	1504	-	-	1411	-	-
Stage 1	911	815	-	657	626	-	-	-	-	-	-	-
Stage 2	653	625	-	873	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	473	461	973	424	459	879	1504	-	-	1411	-	-
Mov Cap-2 Maneuver	473	461	-	424	459	-	-	-	-	-	-	-
Stage 1	845	812	-	610	581	-	-	-	-	-	-	-
Stage 2	597	580	-	806	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12	2.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1504	-	-	718	529	1411	-	-
HCM Lane V/C Ratio	0.065	-	-	0.136	0.031	0.004	-	-
HCM Control Delay (s)	7.6	0	-	10.8	12	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.1	0	-	-

BACKGROUND 2040

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	345	70	40	445	60	115	180	80	70	140	105
Future Volume (veh/h)	110	345	70	40	445	60	115	180	80	70	140	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	375	76	43	484	65	125	196	87	76	152	114
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	893	757	431	586	497	464	657	557	439	657	557
Arrive On Green	0.08	0.48	0.48	0.31	0.31	0.31	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	940	1870	1585	1113	1870	1585	1096	1870	1585
Grp Volume(v), veh/h	120	375	76	43	484	65	125	196	87	76	152	114
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	940	1870	1585	1113	1870	1585	1096	1870	1585
Q Serve(g_s), s	2.2	6.9	1.4	1.7	12.6	1.5	4.7	4.0	2.0	2.8	3.0	2.6
Cycle Q Clear(g_c), s	2.2	6.9	1.4	1.7	12.6	1.5	7.7	4.0	2.0	6.8	3.0	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	893	757	431	586	497	464	657	557	439	657	557
V/C Ratio(X)	0.35	0.42	0.10	0.10	0.83	0.13	0.27	0.30	0.16	0.17	0.23	0.20
Avail Cap(c_a), veh/h	386	1155	979	538	800	678	464	657	557	439	657	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	9.0	7.5	13.0	16.7	12.9	14.8	12.4	11.7	14.8	12.0	11.9
Incr Delay (d2), s/veh	0.6	0.3	0.1	0.1	5.2	0.1	1.4	1.2	0.6	0.9	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.8	0.3	0.3	4.8	0.4	1.2	1.7	0.7	0.7	1.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	9.3	7.6	13.1	21.9	13.1	16.2	13.5	12.3	15.7	12.9	12.8
LnGrp LOS	B	A	A	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h		571			592			408			342	
Approach Delay, s/veh		9.7			20.3			14.1			13.5	
Approach LOS		A			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		23.0		29.6		23.0	8.6	21.0				
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.5		32.5		18.5	5.5	22.5				
Max Q Clear Time (g_c+I1), s		9.7		8.9		8.8	4.2	14.6				
Green Ext Time (p_c), s		1.3		2.1		1.1	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Future Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	892	756	371	607	514	379	594	503	373	594	503
Arrive On Green	0.08	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Grp Volume(v), veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Q Serve(g_s), s	2.6	10.6	1.8	4.7	16.1	3.7	5.3	5.2	1.7	2.6	4.7	2.9
Cycle Q Clear(g_c), s	2.6	10.6	1.8	6.5	16.1	3.7	9.9	5.2	1.7	7.8	4.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	892	756	371	607	514	379	594	503	373	594	503
V/C Ratio(X)	0.44	0.54	0.12	0.23	0.90	0.26	0.30	0.37	0.13	0.16	0.33	0.22
Avail Cap(c_a), veh/h	313	946	802	387	642	544	379	594	503	373	594	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	10.8	8.4	16.2	18.8	14.6	19.0	15.4	14.2	18.4	15.2	14.6
Incr Delay (d2), s/veh	1.0	0.6	0.1	0.3	14.7	0.3	2.0	1.7	0.5	0.9	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.4	0.8	7.8	1.1	1.4	2.3	0.6	0.7	2.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	11.3	8.5	16.5	33.4	14.8	21.0	17.1	14.7	19.3	16.7	15.6
LnGrp LOS	B	B	A	B	C	B	C	B	B	B	B	B
Approach Vol, veh/h		701			766			396			365	
Approach Delay, s/veh		11.6			28.2			17.8			16.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		33.8		24.5	8.9	24.9				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		12.6		9.8	4.6	18.1				
Green Ext Time (p_c), s		1.1		2.6		1.1	0.0	0.8				

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	30	25	25	15	40	70	25	15	160	90
Future Vol, veh/h	35	25	30	25	25	15	40	70	25	15	160	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	33	27	27	16	43	76	27	16	174	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	452	444	223	461	480	90	272	0	0	103	0	0
Stage 1	255	255	-	176	176	-	-	-	-	-	-	-
Stage 2	197	189	-	285	304	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	518	508	817	511	485	968	1291	-	-	1489	-	-
Stage 1	749	696	-	826	753	-	-	-	-	-	-	-
Stage 2	805	744	-	722	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	469	484	817	453	462	968	1291	-	-	1489	-	-
Mov Cap-2 Maneuver	469	484	-	453	462	-	-	-	-	-	-	-
Stage 1	723	687	-	797	727	-	-	-	-	-	-	-
Stage 2	735	718	-	657	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	13	2.3	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	469	484	817	521	1489	-	-
HCM Lane V/C Ratio	0.034	-	-	0.081	0.056	0.04	0.136	0.011	-	-
HCM Control Delay (s)	7.9	0	-	13.4	12.9	9.6	13	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.1	0.5	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	25	50	25	25	15	25	165	25	15	125	25
Future Vol, veh/h	45	25	50	25	25	15	25	165	25	15	125	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	27	54	27	27	16	27	179	27	16	136	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	450	442	150	469	442	193	163	0	0	206	0	0
Stage 1	182	182	-	247	247	-	-	-	-	-	-	-
Stage 2	268	260	-	222	195	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	510	896	505	510	849	1416	-	-	1365	-	-
Stage 1	820	749	-	757	702	-	-	-	-	-	-	-
Stage 2	738	693	-	780	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	475	492	896	442	492	849	1416	-	-	1365	-	-
Mov Cap-2 Maneuver	475	492	-	442	492	-	-	-	-	-	-	-
Stage 1	802	739	-	740	687	-	-	-	-	-	-	-
Stage 2	680	678	-	697	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	13	0.9	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	475	492	896	520	1365	-	-
HCM Lane V/C Ratio	0.019	-	-	0.103	0.055	0.061	0.136	0.012	-	-
HCM Control Delay (s)	7.6	0	-	13.4	12.7	9.3	13	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.2	0.5	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	5.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	25	90	25	25	15	65	105	25	15	170	40
Future Vol, veh/h	35	25	90	25	25	15	65	105	25	15	170	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	98	27	27	16	71	114	27	16	185	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	530	522	207	571	530	128	228	0	0	141	0	0
Stage 1	239	239	-	270	270	-	-	-	-	-	-	-
Stage 2	291	283	-	301	260	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	459	833	432	455	922	1340	-	-	1442	-	-
Stage 1	764	708	-	736	686	-	-	-	-	-	-	-
Stage 2	717	677	-	708	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	407	427	833	343	423	922	1340	-	-	1442	-	-
Mov Cap-2 Maneuver	407	427	-	343	423	-	-	-	-	-	-	-
Stage 1	720	699	-	693	646	-	-	-	-	-	-	-
Stage 2	636	638	-	593	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	14.8	2.6	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1340	-	-	594	438	1442	-	-
HCM Lane V/C Ratio	0.053	-	-	0.274	0.161	0.011	-	-
HCM Control Delay (s)	7.8	0	-	13.3	14.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	6.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	25	95	25	25	15	90	185	25	15	100	25
Future Vol, veh/h	40	25	95	25	25	15	90	185	25	15	100	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	27	103	27	27	16	98	201	27	16	109	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	579	123	631	579	215	136	0	0	228	0	0
Stage 1	155	155	-	411	411	-	-	-	-	-	-	-
Stage 2	432	424	-	220	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	421	426	928	394	426	825	1448	-	-	1340	-	-
Stage 1	847	769	-	618	595	-	-	-	-	-	-	-
Stage 2	602	587	-	782	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	388	928	309	388	825	1448	-	-	1340	-	-
Mov Cap-2 Maneuver	364	388	-	309	388	-	-	-	-	-	-	-
Stage 1	781	759	-	570	549	-	-	-	-	-	-	-
Stage 2	517	541	-	661	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	16	2.3	0.8
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	578	398	1340	-	-
HCM Lane V/C Ratio	0.068	-	-	0.301	0.178	0.012	-	-
HCM Control Delay (s)	7.7	0	-	13.9	16	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.6	0	-	-

TOTAL 2040

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/23/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	355	70	40	450	65	115	200	80	85	175	120
Future Volume (veh/h)	110	355	70	40	450	65	115	200	80	85	175	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	386	76	43	489	71	125	217	87	92	190	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	858	727	410	568	481	395	614	521	386	614	521
Arrive On Green	0.08	0.46	0.46	0.30	0.30	0.30	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	930	1870	1585	1060	1870	1585	1075	1870	1585
Grp Volume(v), veh/h	120	386	76	43	489	71	125	217	87	92	190	130
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	930	1870	1585	1060	1870	1585	1075	1870	1585
Q Serve(g_s), s	2.4	7.9	1.5	1.9	13.9	1.8	5.6	5.0	2.2	4.0	4.3	3.4
Cycle Q Clear(g_c), s	2.4	7.9	1.5	1.9	13.9	1.8	9.9	5.0	2.2	9.0	4.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	858	727	410	568	481	395	614	521	386	614	521
V/C Ratio(X)	0.39	0.45	0.10	0.10	0.86	0.15	0.32	0.35	0.17	0.24	0.31	0.25
Avail Cap(c_a), veh/h	334	980	830	458	664	563	395	614	521	386	614	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	10.4	8.7	14.3	18.5	14.3	17.8	14.4	13.4	17.8	14.1	13.8
Incr Delay (d2), s/veh	0.8	0.4	0.1	0.1	10.0	0.1	2.1	1.6	0.7	1.5	1.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.2	0.4	0.3	6.1	0.5	1.5	2.1	0.8	1.1	1.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	10.8	8.7	14.4	28.5	14.4	19.9	16.0	14.1	19.2	15.4	15.0
LnGrp LOS	B	B	A	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h		582			603			429			412	
Approach Delay, s/veh		11.1			25.8			16.7			16.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		31.8		24.5	8.7	23.1				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		9.9		11.0	4.4	15.9				
Green Ext Time (p_c), s		1.2		2.1		1.2	0.0	1.2				

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: SH 52 & CR 31 01/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Future Volume (veh/h)	120	445	80	80	500	125	105	200	60	55	180	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	892	756	371	607	514	379	594	503	373	594	503
Arrive On Green	0.08	0.48	0.48	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Grp Volume(v), veh/h	130	484	87	87	543	136	114	217	65	60	196	109
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	841	1870	1585	1074	1870	1585	1097	1870	1585
Q Serve(g_s), s	2.6	10.6	1.8	4.7	16.1	3.7	5.3	5.2	1.7	2.6	4.7	2.9
Cycle Q Clear(g_c), s	2.6	10.6	1.8	6.5	16.1	3.7	9.9	5.2	1.7	7.8	4.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	892	756	371	607	514	379	594	503	373	594	503
V/C Ratio(X)	0.44	0.54	0.12	0.23	0.90	0.26	0.30	0.37	0.13	0.16	0.33	0.22
Avail Cap(c_a), veh/h	313	946	802	387	642	544	379	594	503	373	594	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	10.8	8.4	16.2	18.8	14.6	19.0	15.4	14.2	18.4	15.2	14.6
Incr Delay (d2), s/veh	1.0	0.6	0.1	0.3	14.7	0.3	2.0	1.7	0.5	0.9	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.4	0.8	7.8	1.1	1.4	2.3	0.6	0.7	2.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	11.3	8.5	16.5	33.4	14.8	21.0	17.1	14.7	19.3	16.7	15.6
LnGrp LOS	B	B	A	B	C	B	C	B	B	B	B	B
Approach Vol, veh/h		701			766			396			365	
Approach Delay, s/veh		11.6			28.2			17.8			16.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5		33.8		24.5	8.9	24.9				
Change Period (Y+Rc), s		6.0		6.0		6.0	4.5	6.0				
Max Green Setting (Gmax), s		18.5		29.5		18.5	5.0	20.0				
Max Q Clear Time (g_c+I1), s		11.9		12.6		9.8	4.6	18.1				
Green Ext Time (p_c), s		1.1		2.6		1.1	0.0	0.8				

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th TWSC
2: CR 31 & 9th Street 01/23/2022

Intersection												
Int Delay, s/veh	4.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	65	25	25	15	55	80	25	15	190	90
Future Vol, veh/h	35	25	65	25	25	15	55	80	25	15	190	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	71	27	27	16	60	87	27	16	207	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	530	522	256	558	558	101	305	0	0	114	0	0
Stage 1	288	288	-	221	221	-	-	-	-	-	-	-
Stage 2	242	234	-	337	337	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	459	783	440	438	954	1256	-	-	1475	-	-
Stage 1	720	674	-	781	720	-	-	-	-	-	-	-
Stage 2	762	711	-	677	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	430	783	363	410	954	1256	-	-	1475	-	-
Mov Cap-2 Maneuver	408	430	-	363	410	-	-	-	-	-	-	-
Stage 1	683	665	-	741	683	-	-	-	-	-	-	-
Stage 2	683	675	-	583	633	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	14.6	2.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	408	430	783	447	1475	-	-
HCM Lane V/C Ratio	0.048	-	-	0.093	0.063	0.09	0.158	0.011	-	-
HCM Control Delay (s)	8	0	-	14.7	13.9	10.1	14.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0.3	0.6	0	-	-

HCM 6th TWSC
2: CR 31 & 9th Street 01/24/2022

Intersection												
Int Delay, s/veh	5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	25	75	25	25	15	60	205	25	15	145	25
Future Vol, veh/h	45	25	75	25	25	15	60	205	25	15	145	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	27	82	27	27	16	65	223	27	16	158	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	592	584	172	625	584	237	185	0	0	250	0	0
Stage 1	204	204	-	367	367	-	-	-	-	-	-	-
Stage 2	388	380	-	258	217	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	418	423	872	397	423	802	1390	-	-	1316	-	-
Stage 1	798	733	-	653	622	-	-	-	-	-	-	-
Stage 2	636	614	-	747	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	368	395	872	324	395	802	1390	-	-	1316	-	-
Mov Cap-2 Maneuver	368	395	-	324	395	-	-	-	-	-	-	-
Stage 1	755	723	-	618	588	-	-	-	-	-	-	-
Stage 2	562	581	-	643	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	15.7	1.6	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	368	395	872	408	1316	-	-
HCM Lane V/C Ratio	0.047	-	-	0.133	0.069	0.093	0.173	0.012	-	-
HCM Control Delay (s)	7.7	0	-	16.3	14.8	9.6	15.7	7.8	0	-
HCM Lane LOS	A	A	-	C	B	A	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.2	0.3	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/23/2022

Intersection												
Int Delay, s/veh	5.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	25	100	25	25	15	75	105	25	15	170	40
Future Vol, veh/h	35	25	100	25	25	15	75	105	25	15	170	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	27	109	27	27	16	82	114	27	16	185	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	552	544	207	599	552	128	228	0	0	141	0	0
Stage 1	239	239	-	292	292	-	-	-	-	-	-	-
Stage 2	313	305	-	307	260	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	444	446	833	413	442	922	1340	-	-	1442	-	-
Stage 1	764	708	-	716	671	-	-	-	-	-	-	-
Stage 2	698	662	-	703	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	389	411	833	320	407	922	1340	-	-	1442	-	-
Mov Cap-2 Maneuver	389	411	-	320	407	-	-	-	-	-	-	-
Stage 1	713	699	-	668	626	-	-	-	-	-	-	-
Stage 2	612	618	-	580	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	15.4	2.9	0.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1340	-	-	591	417	1442	-	-
HCM Lane V/C Ratio	0.061	-	-	0.294	0.169	0.011	-	-
HCM Control Delay (s)	7.9	0	-	13.6	15.4	7.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.6	0	-	-

HCM 6th TWSC
3: CR 31 & 14th Street 01/24/2022

Intersection												
Int Delay, s/veh	6.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	25	100	25	25	15	100	185	25	15	100	25
Future Vol, veh/h	40	25	100	25	25	15	100	185	25	15	100	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	27	109	27	27	16	109	201	27	16	109	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	609	601	123	656	601	215	136	0	0	228	0	0
Stage 1	155	155	-	433	433	-	-	-	-	-	-	-
Stage 2	454	446	-	223	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	407	414	928	379	414	825	1448	-	-	1340	-	-
Stage 1	847	769	-	601	582	-	-	-	-	-	-	-
Stage 2	586	574	-	780	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	373	928	292	373	825	1448	-	-	1340	-	-
Mov Cap-2 Maneuver	348	373	-	292	373	-	-	-	-	-	-	-
Stage 1	773	759	-	549	531	-	-	-	-	-	-	-
Stage 2	498	524	-	655	749	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	16.6	2.5	0.8
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	570	381	1340	-	-
HCM Lane V/C Ratio	0.075	-	-	0.315	0.185	0.012	-	-
HCM Control Delay (s)	7.7	0	-	14.2	16.6	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.7	0	-	-

Appendix C
Figure and Table 4C-3 Manual on Uniform Traffic Control Devices

Excerpt from the Federal Highway Administration's, "Manual on Uniform Traffic Control Devices" (MUTCD), 2009

2009 EDITION PART 4 FIGURE 4C-3. WARRANT 3, PEAK HOUR

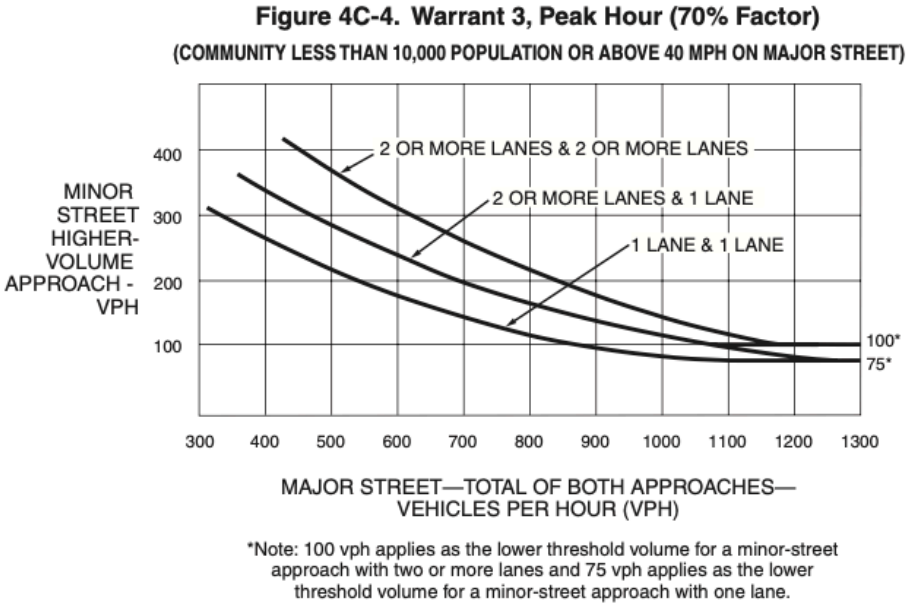


Figure 4C-3. Warrant 3, Peak Hour

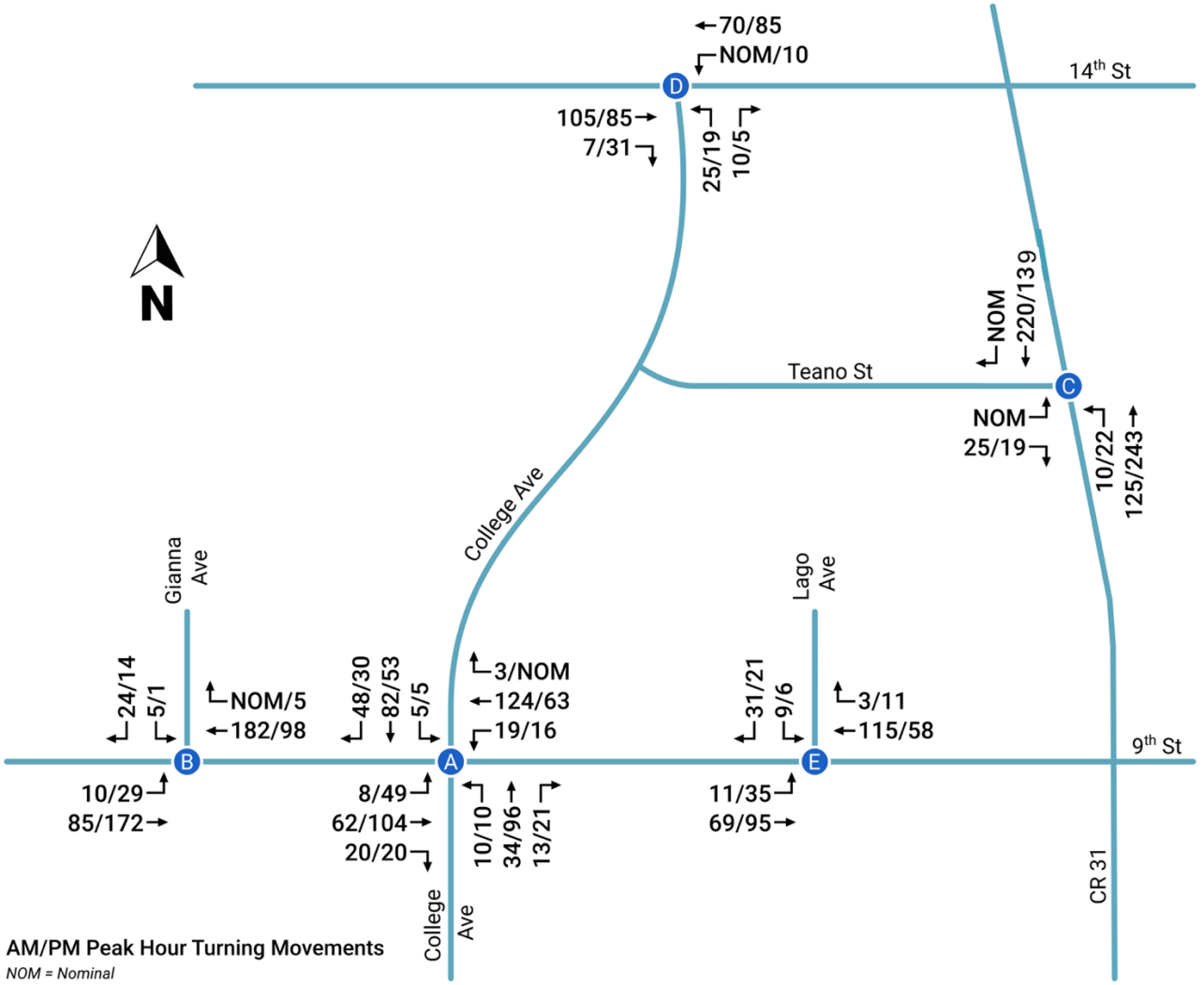
This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

Source: Federal Highway Administration's online "Manual on Uniform Traffic Control Devices" (MUTCD) 2009

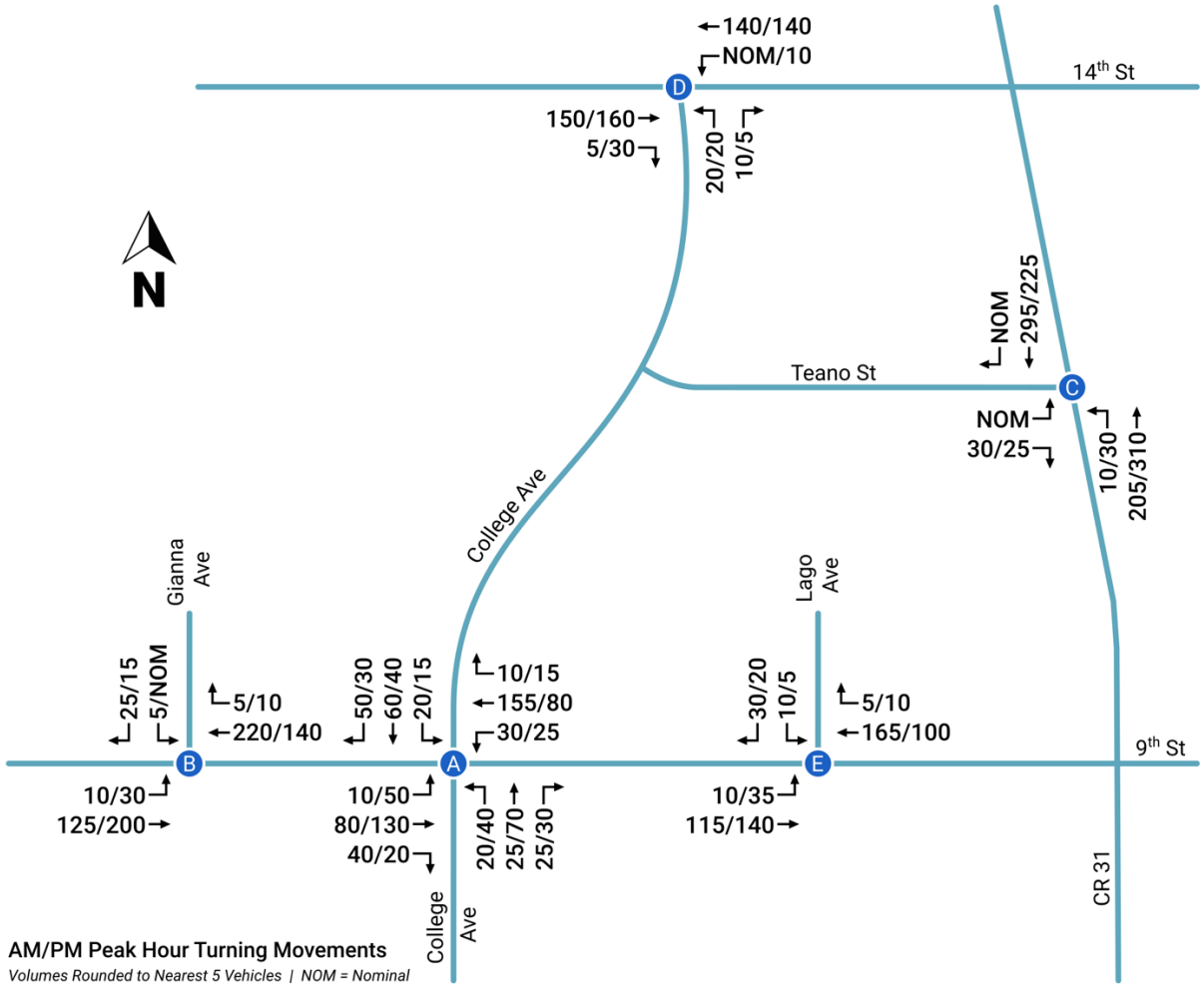
Appendix D

Project Access 2027 and 2040 Volumes and NCHRP REPORT 279

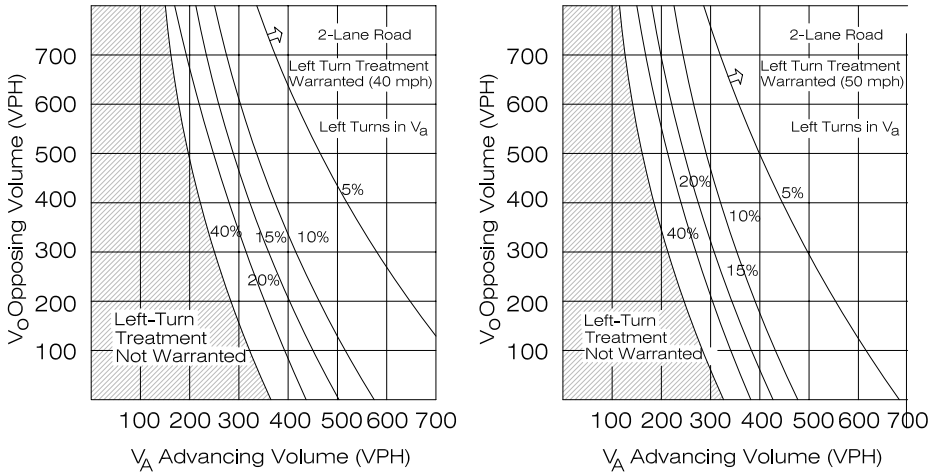
Project Access 2027 Peak Hour Volumes



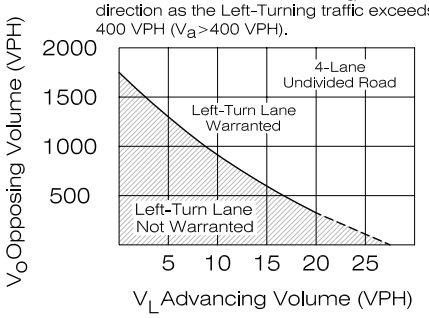
Project Access 2040 Peak Hour Volumes



Based on Transportation Research Board's, *NCHRP – Report 279*, 1985

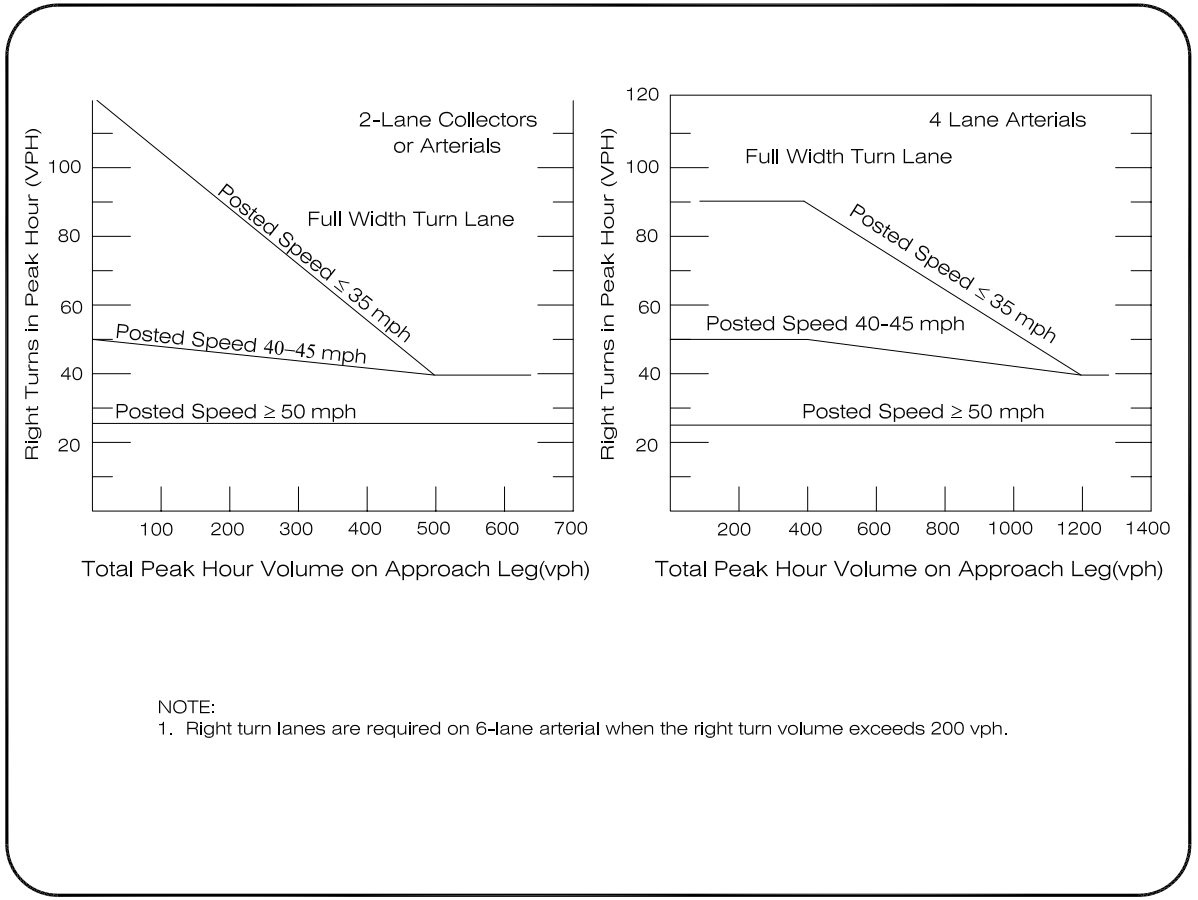


NOTE: When V_O < 400 VPH (dashed line). A Left-Turn Lane is not normally warranted unless the advancing volume (V_a) in the same direction as the Left-Turning traffic exceeds 400 VPH (V_a>400 VPH).



Notes: 1. Left turn lanes are required at all intersections and all-movement accesses on arterial roadways except where roundabouts are provided.

Based on Transportation Research Board's, *NCHRP – Report 279*, 1985



NOTE:
1. Right turn lanes are required on 6-lane arterial when the right turn volume exceeds 200 vph.



Arapaho • CWG • 1476A



Chatfield • CWG • 1293 A



Columbia II • CWG-2171A



Harvard II • CWG 2684 A



The Savannah II • CWG 2026M



Yale II(L-C) • CWG • 1870A

Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621
Phone: 303.857.6694
Fax: 303.857.0351
www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Daniel Rodriguez (Atwell)

From: Roy Vestal

Date: June 16, 2022

Subject: Cottonwood Greens PUD Filings 5-10; LUP2022-0008
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Final Plat submittal. Be advised, the preliminary review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. **Plat**
   a. See Transportation ROW comments, affects Filings 7 and 10.

2. **Site Plan**
   a. Water main in 14th Street connection to CR 31 is required.
   b. Nonpotable water main connection to 14th Street and to CR 31 is required.

3. **Drainage**
   a. Final Drainage Study as submitted is acceptable.
   b. Coordination with current staff planning for this basin is required.
      i. Proposed storm line in 14th needs to be coordinated with Tri-State plans from the east.

4. **Transportation**
   a. The Traffic Study as submitted is acceptable.
   b. CR 31 currently has 60-feet of ROW existing. CR 31 is an arterial with a ROW requirement of 110-feet total. An additional 25-feet is required.
   c. 14th Street ROW dedication by plat is good.

5. **Landscape / Grading** - *Chapter 2 Design Standards*
   a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
   b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

6. Utilities

a. **Utility Memo**

i. Water main in 9th Street being connected to at College is a 21" x 21" cross. (See attached record drawing)
ii. Please include a network hydraulic modeling of the proposed development. We need to ensure the distribution system proposed will be adequate for future city growth.
iii. Confirm with developer that they have plot plans for homes that will fit your utility service locations. The meter locations will be at 5-feet from property lines, cannot be next to concrete driveways. This has proven to be a challenge in other developments since the driveways tend to be on one side of the home, which, with narrow lots it is offset from the property line by 5-feet. All of the elevation drawings show this to be the case. I would suggest reevaluating your utility service configurations.

b. Water - Chapter 3

i. There will be no connection to 9th Street. Move your blow off and cap to the north side of the gas line crossing to avoid irritating Oxy.
ii. *Section 3.12.01 Water System Utility Study* required.
iii. *Section 3.18.01* Water mains shall be extended the entire frontage of the property. The 12" line in College Avenue will be required to extend to 14th Street to the north and connected to the 12" main at the intersection of 14th Street and CR 31.
iv. Section 3.18.01 Minimum horizontal separation from water and all other utilities (including irrigation line) is 10-feet (edge of pipe to edge of pipe). All street sections on sheet 2 need to be revised.
v. Section 3.21.00 All service lines 3/4 inch through 2 inch shall be copper and shall be installed continuous without joints between the corporation stop at the water main and the meter or curb stop.
vi. The proposed pattern along lot frontages for utility services has proven to be problematic with meeting required separations and edge of concrete separation to meter pits. It will be required that all meter pits be 4-feet from edge of driveways. The water service must be 10-feet from irrigation and sanitary services.
vii. Services directly across from each other on the same main will not provide perpendicular service lines to the property. They will have to alternate sides of the street to avoid as depicted.

c. Non Potable Irrigation

i. The nonpotable water main will be connected to 14th and connected to CR 31.
ii. Please identify open space irrigation system connection to the nonpotable water line and label meter size required.

iii. The main feed to each sub area system must be from a master metered vault location.

d. Sanitary Sewer - Chapter 4

i. *Section 4.12.00* A utility study is required.
ii. Coordination of timing for offsite sanitary sewer in 9th Street will be required with City 9th Street project.

e. Roadway - Chapter 6

i. 14th Street and CR 31 improvements are required. Need to be included with CD's at appropriate Filing frontage. 14th Street with Filing 6CR 31 staged to occur for full improvements with Filing 10. Additional discussions will need to occur regarding CR 31 build-out.
ii. *Section 6.33.00* A Pavement Design Report is required prior to roadway paving. City preferred pavement section is a composite section of asphalt surface with Class VI base.
iii. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The site triangle needs to be pulled back to the ultimate roadway section.
iv. 9th Street Improvements payment will be required with approval of the Plats.

f. Traffic Control - Chapter 8

i. The Traffic Study as submitted is acceptable.

7. **Public Improvement Agreement** – A Subdivision Improvements Agreement will be required for the construction of roadways, water, sewer and nonpotable water systems. See attached template.

8. A Geotechnical report for final pavement design will be required prior to paving. **Be advised the pavement section for this area will now require subbase stabilization and a composite pavement section**.

There may be additional concerns as this design develops.

Fort Lupton Fire Protection District
1121 Denver Avenue • Fort Lupton, Colorado 80621
Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.fortluptonfire.org

Date: 06/08/2022
Project name: Cottonwood Greens PUD Filing #5-10
Project address: Fort Lupton, CO 80621
FLFPD Project # R2022-029
Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the submittal for **Cottonwood Greens PUD Filing #5-10** located at Fort Lupton, CO 80621. The submittal was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA)* standards as adopted by the Fort Lupton Fire Protection District, the City Council of Fort Lupton and the Weld County Commissioners. The following specific requirements and conditions shall be met prior to operations.

Specific Requirements

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official.
    a. *The Fee Schedule, and Plan Review Application can be found at https://fortluptonfire.org/contractors/*
    b. *All documents shall be electronic and sent to ttamlin@ftluptonfire.com*
3. The following items shall be submitted for review prior to construction.
    a. Site Plan showing,
        i. Width of fire department access roads
        ii. Hydrant Locations & Distancing (One document please)
        iii. Street lengths to dead end
4. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders
5. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m2) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour.

Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m2) shall not be less than that specified in Table B105.1.

a. Exception: A reduction in required fire-flow of 50 percent, as approved, is allowed when the building is equipped with an approved automatic sprinkler system.

6. The minimum number of fire hydrants available to a building shall not be less than that listed in Table C105.1. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table C105.1 when applied to fire apparatus access roads and perimeter public streets from which fire operations could be conducted.

7. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3.

Exceptions:

1. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the International Fire Code, access from two directions shall not be required.

2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

8. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

9. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way a monument, pole or other sign or means shall be used to identify the structure. Address numbers shall be maintained.

10. Provide a document that will be sent to new potential home owners in filing 5-10 notifying them that the Fort Lupton Fire Protection District has a fire station, training center, burn tower, and driver training lot in the area. The document shall be reviewed by the fire district for approval.

Please contact Fire Marshal, Taw Tamlin at 303-857-4603 or ttamlin@ftluptonfire.com if you have questions or need further assistance.

Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Wednesday, June 8, 2022 1:30 PM
To: Magaly Morales-Tejada
Cc: Maria Lancto; Todd Hodges
Subject: RE: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

Magaly,

We do not have any comments on this referral.

Thank you
Kris

Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)
www.northernwater.org
Facebook | Twitter | Instagram | LinkedIn
Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 23, 2022 3:21 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

External Message - Please be cautious when replying or opening links or attachments in this email

Good Afternoon,

The documentation located at the following link is submitted to you for review and recommendation for a preliminary and final PUD plat being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link: https://www.fortluptonco.gov/DocumentCenter/Index/668.

Any comments you consider relevant to this request would be appreciated. Please reply by **June 13, 2022**, so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, June 23, 2022 at 6:00 PM; and

- City Council: Tuesday, July 5, 2022 at 7:00 PM

Your time in this matter is greatly appreciated!

Fort Lupton
WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 **| Direct** 720.466.6111
Fax 303.857.0351
MMTejada@FortLuptonCo.Gov
130 S. McKinley Ave, Fort Lupton, CO 80621

The information transmitted is intended only for the person or entity to which it is addressed and may contain CONFIDENTIAL material. If you receive this information in error, please delete or destroy the information.

Magaly Morales-Tejada

From: John Fryar
Sent: Monday, May 23, 2022 3:28 PM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

There is no law enforcement issues from a planning perspective. Only the future staff needs as the projects develop.

Remember "Find a Way to Help"

John Fryar, Chief of Police
130 S. McKinley Ave
Fort Lupton, CO 80621

Work (303) 857-4011
Cell (303) 210-0100

From: Magaly Morales-Tejada <MMTejada@FortLuptonCo.Gov>
Sent: Monday, May 23, 2022 3:21 PM
Cc: Maria Lancto <MLancto@FortLuptonCo.Gov>; Todd Hodges <Thodges@FortLuptonCo.Gov>
Subject: Referral Response Request: Cottonwood Greens PUD Filings 5-10; LUP2022-0008

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WWW.FORTLUPTONCO.GOV

Magaly Morales-Tejada
Planning Technician

Main 303.857.6694 | **Direct** 720.466.6111
Fax 303.857.0351
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130 S. McKinley Ave, Fort Lupton, CO 80621

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Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 31, 2022

City of Fort Lupton Planning Department
130 South McKinley Avenue
Fort Lupton, CO 80621

Attn: Todd Hodges and Maria Lancto and Magaly Morales-Tejeda

Re: Cottonwood Greens PUD Filings 5-10, Case # LUP2022-0008

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the documentation for **Cottonwood Greens PUD Filings 5-10**. The property owner/developer/contractor must complete the application process for any new natural gas service via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

If additional easements need to be acquired by separate PSCo document, a Right-of-Way Agent will need to be contacted.

Donna George
Right of Way and Permits
Public Service Company of Colorado / Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

June 14, 2022

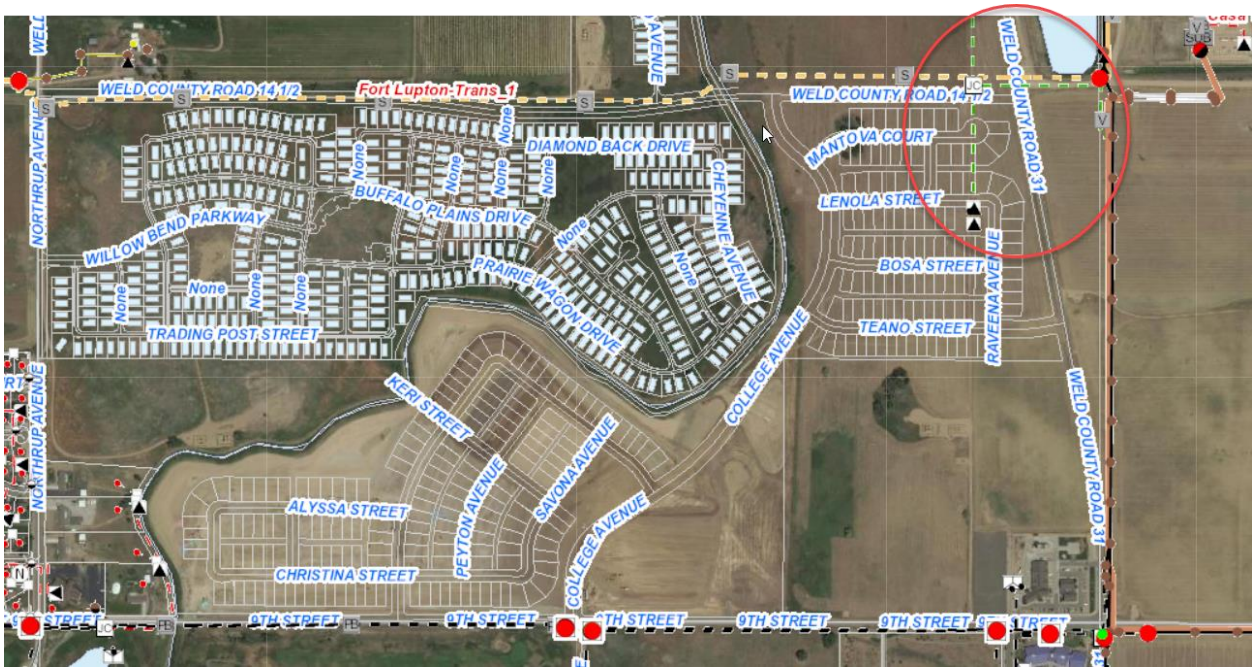
City of Fort Lupton | Planning & Building
130 S. McKinley Ave.
Fort Lupton, CO 80621

Re: PPL2022-0002 & FPL2022-0002 – Cottonwood Greens PUD Filing 5-10

Dear Maria:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Cottonwood Greens Preliminary PUD Plat and Cottonwood Greens PUD Filing No. 5-10. After review of the information, we have the following comments:

- We have existing underground electrical distribution within the site location for Filing No. 7. According to the construction plans in the PUD Plat, this line is to be relocated. Please work closely with United Power Prior to construction to make arrangements. When relocated, this line must be within an easement and the easement area cannot be encumbered.



- PUD Plat – Sheets 11, 12, 13 and 14 do not indicate easement areas; however, it appears there are easements on the plat.

- **Easements utilized by United Power** - Cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

- **Streetlights** – When streetlight locations are identified in a subdivision, we need a 5' wide dry utility easement along one side of the lot closest to the streetlight location. All streetlight locations must be approved and signed off by the city/town, etc. Please note, if we do not get these through the platting process, we will have to get individual ones during the design which will slow United Power's ability to start construction significantly.

- **Landscaping within a Utility Easement**- When landscaping in utility easements, please keep in mind that we can only have shallow rooting vegetation such as small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines. The trunk/base of the tree(s) should be minimum of 5' away from the underground electric line with no trees planted under overhead lines. Any landscaping should be a minimum clearance distance of 15' from the front and both sides of equipment such as transformers, and cabinets, etc. and five feet from the back to allow a backhoe if needed

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via https://www.unitedpower.com/construction. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Agent
O: 303-637-1324 | Email: platreferral@unitedpower.com

COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

15.31 ACRES

LEGAL DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 87°46'51" EAST 763.89 FEET TO THE SOUTH RIGHT–OF–WAY LINE OF 14TH STREET AND THE NORTHWEST CORNER OF SAID THERMO–FARMS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID SOUTH RIGHT–OF–WAY LINE AND ALONG THE NORTH LINE OF SAID THERMO–FARMS NORTH 89°58'06" EAST 456.81 FEET;

THENCE DEPARTING SAID SOUTH RIGHT–OF–WAY LINE AND SAID NORTH LINE SOUTH 00°01'47" EAST 25.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AND A CENTER WHICH BEARS SOUTH 45°04'31" EAST;

THENCE 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45" TO A POINT OF TANGENCY;

THENCE SOUTH 00°07'09" EAST 656.17 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 532.50 FEET;

THENCE 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40" TO A POINT OF NON–TANGENCY;

THENCE SOUTH 56°15'29" EAST 85.00 FEET;

THENCE SOUTH 33°44'31" WEST 3.48 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00" TO A POINT OF TANGENCY;

THENCE SOUTH 56°15'29" EAST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE HAVING A RADIUS OF 145.00 FEET;

THENCE 3.03 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°11'50" TO A POINT OF NON–TANGENCY;

THENCE NORTH 20°20'45" EAST 127.99 FEET;

THENCE SOUTH 69°39'15" EAST 18.25 FEET;

THENCE SOUTH 79°55'29" EAST 75.55 FEET;

THENCE NORTH 89°52'51" EAST 500.00 FEET;

THENCE NORTH 89°25'40" EAST 50.00 FEET;

THENCE NORTH 85°16'56" EAST 50.16 FEET;

THENCE NORTH 84°52'51" EAST 65.46 FEET;

THENCE SOUTH 00°07'09" EAST 93.65 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 5.63 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO A POINT OF TANGENCY;

THENCE NORTH 84°52'51" EAST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 264.00 FEET;

THENCE 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40" TO A POINT OF TANGENCY;

THENCE NORTH 71°48'11" EAST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 336.00 FEET;

THENCE 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31" TO A POINT OF TANGENCY;

THENCE NORTH 78°50'42" EAST 46.09 FEET TO A POINT OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 15.00 FEET;

THENCE 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59" TO A POINT OF NON–TANGENCY;

THENCE NORTH 78°50'42" EAST 10.00 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY ROAD 31, ALSO BEING THE EASTERLY LINE OF SAID THERMO–FARMS;

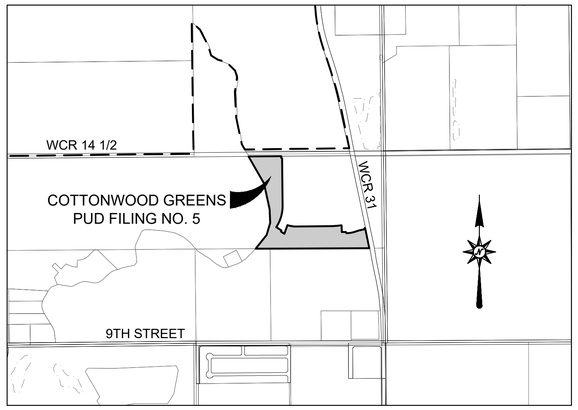
THENCE ALONG SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID EASTERLY LINE SOUTH 11°09'18" EAST 287.30 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 33, ALSO BEING THE SOUTH LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID SOUTH LINES NORTH 89°52'26" WEST 1498.55 FEET TO THE WESTERLY LINE OF SAID THERMO–FARMS;

THENCE ALONG SAID WESTERLY LINE THE FOLLOWING FIVE (5) COURSES:

1. NORTH 39°06'23" EAST 246.83 FEET;
2. NORTH 16°42'35" EAST 177.01 FEET;
3. NORTH 02°13'20" WEST 191.53 FEET;
4. NORTH 11°45'35" WEST 367.88 FEET;
5. NORTH 29°31'20" WEST 434.19 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 667,121 SQUARE FEET, OR 15.31 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 5, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 5 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____ _____
MAYOR CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 5

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JOB NO.	21002209

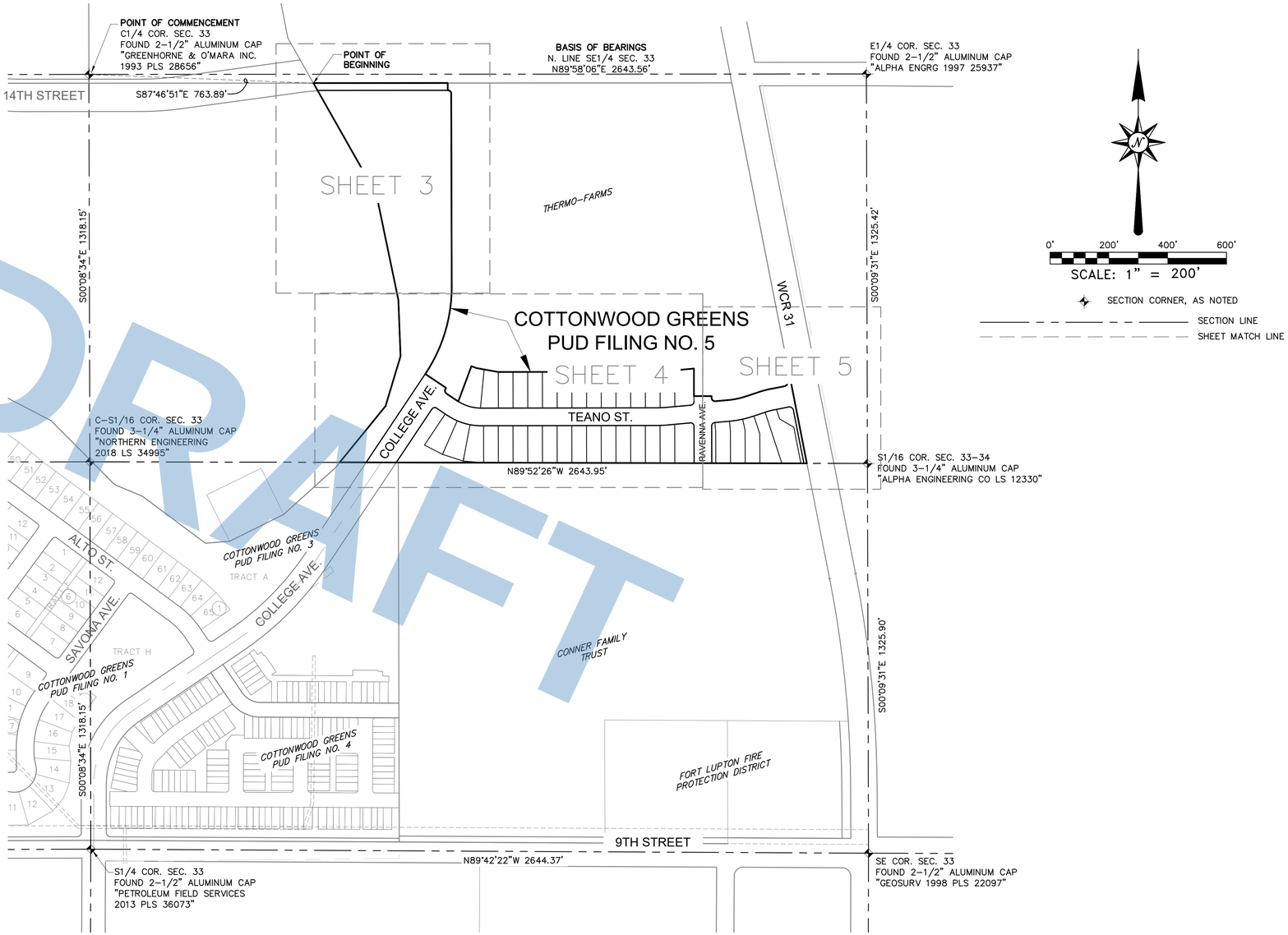
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	15,261	0.35	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,817	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	264,050	6.06	DETENTION, OPEN SPACE	METRO DISTRICT
D	4,189	0.10	UTILITIES, OPEN SPACE	METRO DISTRICT
E	11,243	0.26	RIGHT-OF-WAY	FORT LUPTON
	296,560	6.75		
LOTS (37)	252,517	5.79		
RIGHT-OF-WAY	129,287	2.97		
TOTAL	667,121	15.31		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT NO. 0019515-030-TH-EG DATED OCTOBER 5, 2018 IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 658,877 SQARE FEET, OR 15.13 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U.S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

COLORADO LICENSED
MICHAEL LLOYD POOL
28304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 5

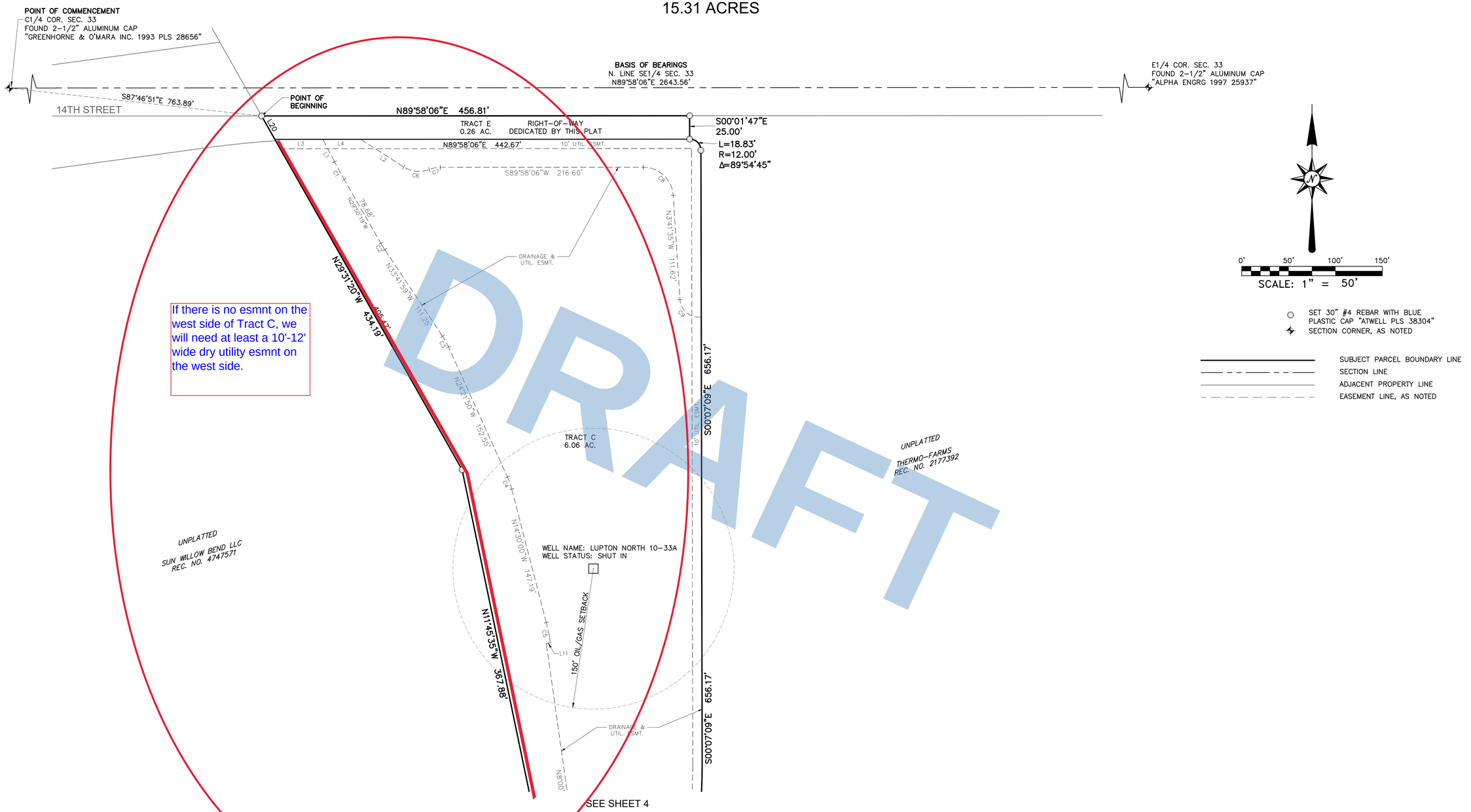
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COTTONWOOD GREENS PUD FILING NO. 5

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES



DRAFT

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
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REVISIONS

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OF 5

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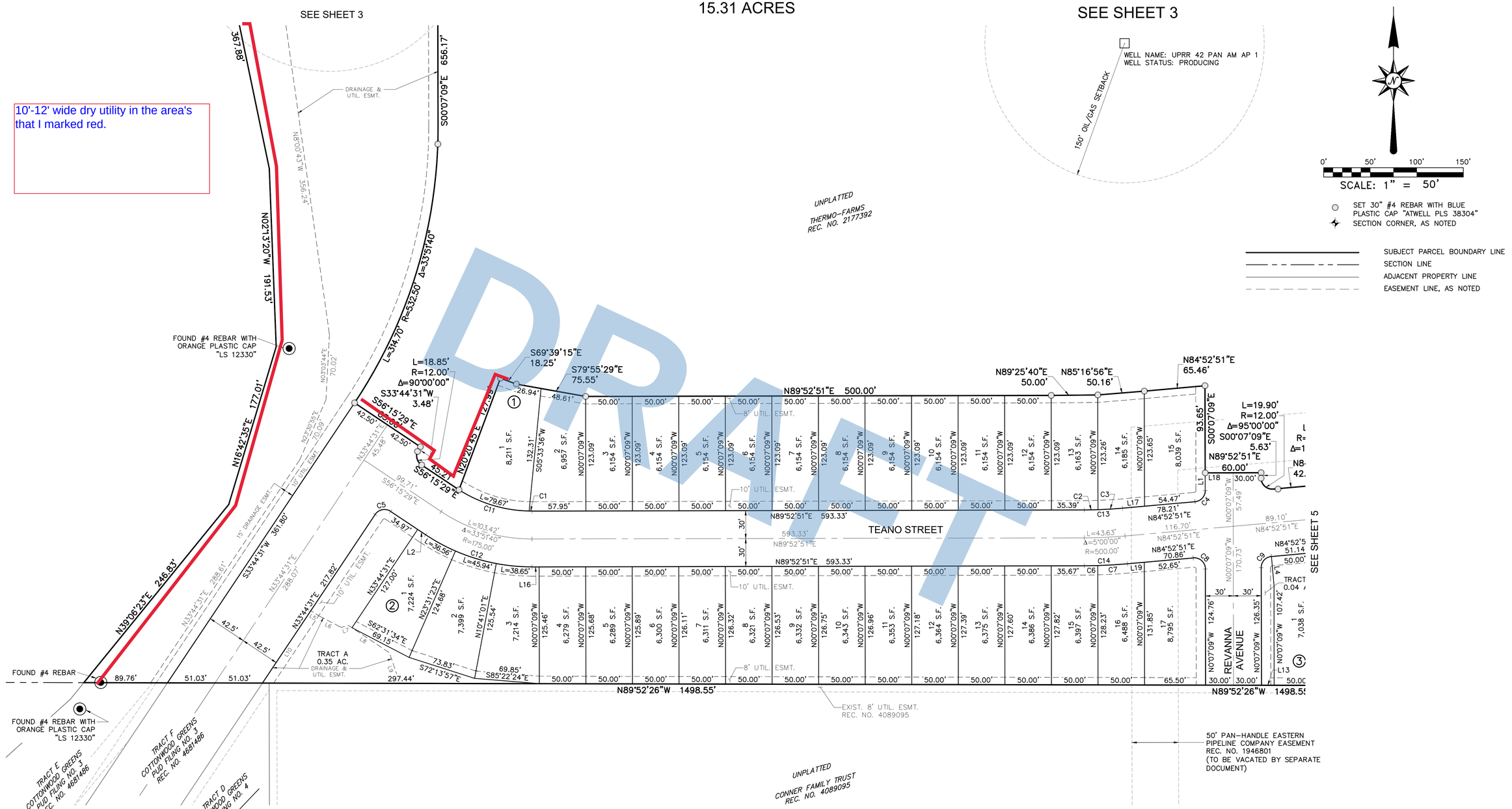
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

10'-12' wide dry utility in the area's that I marked red.



DRAFT

COLORADO LICENSED
MICHAEL LLOYD TUTT
38304
PROFESSIONAL LAND SURVEYOR
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143 UNION BOULEVARD, SUITE 700
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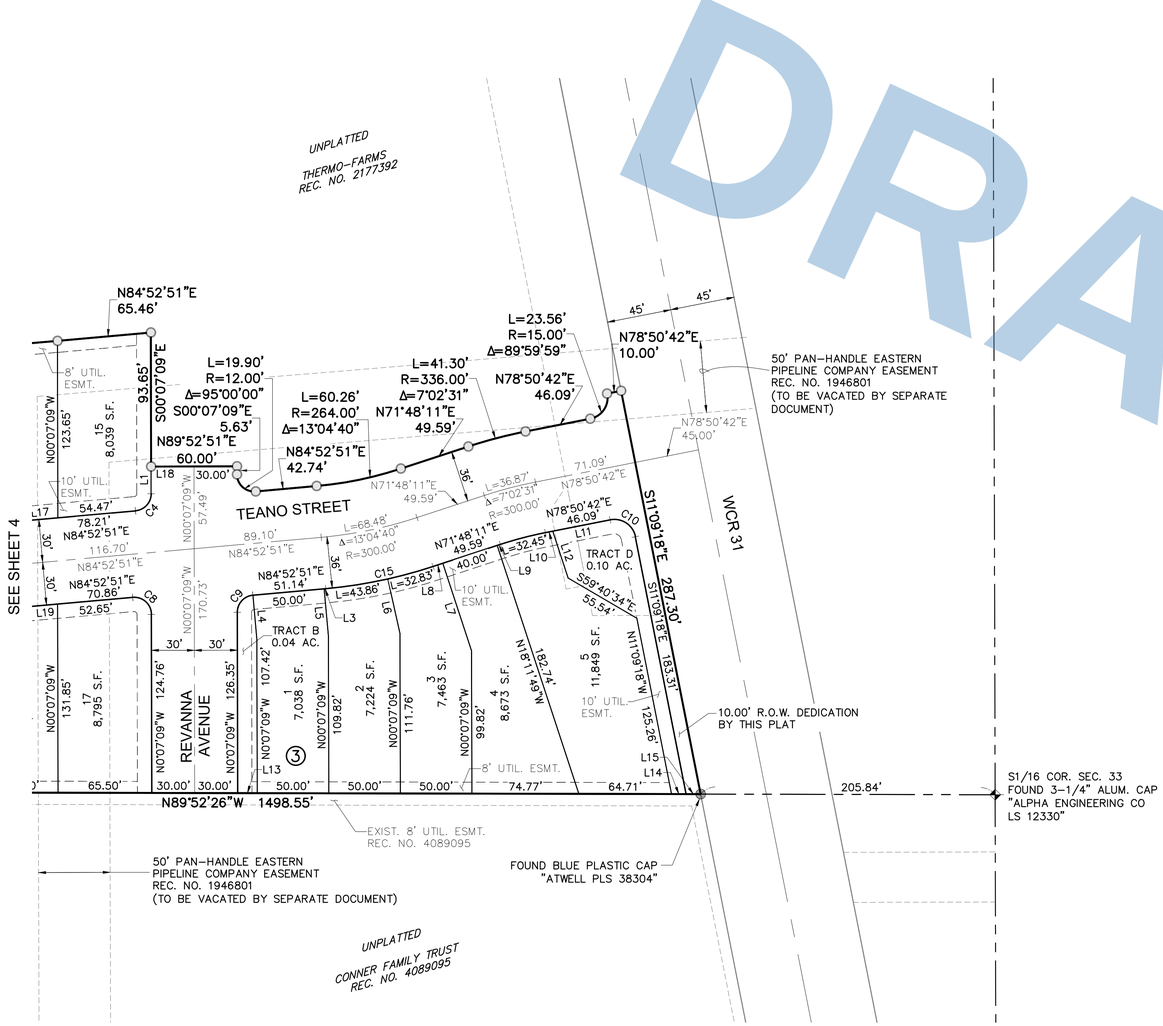
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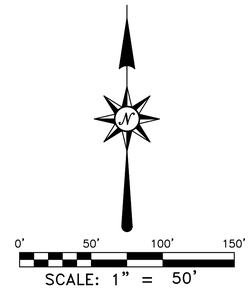
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COTTONWOOD GREENS PUD FILING NO. 5

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
15.31 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED

- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LOT & TRACT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N00°07'09"W	19.01'
L2	S56°15'29"E	10.25'
L3	S84°52'51"W	1.14'
L4	N05°07'09"W	31.06'
L5	N05°07'09"W	33.24'
L6	N12°35'55"W	39.06'
L7	N18°11'49"W	64.35'
L8	S71°48'11"W	7.17'
L9	S71°48'11"W	2.42'
L10	S78°50'42"W	5.25'
L11	S78°50'42"W	40.84'
L12	N18°11'49"W	34.53'
L13	N89°52'26"W	13.66'
L14	N89°52'26"W	10.20'
L15	N89°52'26"W	10.20'
L16	S89°52'51"W	7.66'
L17	S84°52'51"W	23.74'
L18	N89°52'51"E	30.00'
L19	S84°52'51"W	18.21'
L20	N29°31'20"W	28.72'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	1°10'58"	145.00'	2.99'
C2	1°46'55"	470.00'	14.62'
C3	3°13'05"	470.00'	26.40'
C4	85°00'00"	12.00'	17.80'
C5	90°00'00"	12.00'	18.85'
C6	1°32'58"	530.00'	14.33'
C7	3°27'02"	530.00'	31.92'
C8	95°00'00"	12.00'	19.90'
C9	85°00'00"	12.00'	17.80'
C10	90°00'00"	15.00'	23.56'
C11	33°51'40"	145.00'	85.69'
C12	33°51'41"	205.00'	121.15'
C13	5°00'00"	470.00'	41.02'
C14	5°00'00"	530.00'	46.25'
C15	13°04'40"	336.00'	76.69'

EASEMENT TABLES

LINE DATA TABLE

LINE #	DIRECTION	LENGTH
L1	N27°23'50"W	27.00'
L2	N57°11'52"W	50.39'
L3	N89°58'20"E	51.23'
L4	N89°57'48"E	40.33'
L5	N56°15'29"W	9.45'
L6	N62°31'34"W	27.72'
L7	S75°36'29"W	8.22'
L8	N56°15'29"W	52.86'
L9	N18°38'56"W	34.67'
L10	N33°44'31"E	93.67'
L11	N75°30'00"E	4.58'

CURVE DATA TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	2°26'29"	500.00'	21.30'
C2	3°51'40"	120.00'	8.09'
C3	9°20'09"	80.00'	13.04'
C4	9°51'50"	80.00'	13.77'
C5	3°46'40"	199.00'	13.12'
C6	54°30'15"	30.00'	28.54'
C7	21°40'13"	32.00'	12.10'
C8	86°20'19"	32.00'	48.22'
C9	86°25'34"	20.00'	30.17'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
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143 UNION BOULEVARD, SUITE 700
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303.462.1100

REVISIONS

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COTTONWOOD GREENS PUD FILING NO. 6

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 68°38'55" EAST 1323.87 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE DEPARTING SAID EASTERLY LINE NORTH 89°52'51" EAST 85.00 FEET;

THENCE SOUTH 00°07'09" EAST 11.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 3.00 FEET;

THENCE NORTH 00°07'09" WEST 125.31 FEET;

THENCE NORTH 89°52'51" EAST 315.21 FEET;

THENCE SOUTH 00°07'09" EAST 113.31 FEET;

THENCE NORTH 89°52'51" EAST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 72.18 FEET;

THENCE NORTH 89°49'35" EAST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 264.59 FEET;

THENCE NORTH 89°52'51" EAST 85.73 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 170.00 FEET;

THENCE 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";

THENCE SOUTH 50°22'42" EAST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;

THENCE 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";

THENCE SOUTH 64°00'29" EAST 46.81 FEET;

THENCE SOUTH 31°39'11" EAST 73.97 FEET;

THENCE SOUTH 20°06'58" EAST 72.65 FEET;

THENCE SOUTH 07°57'50" EAST 73.78 FEET;

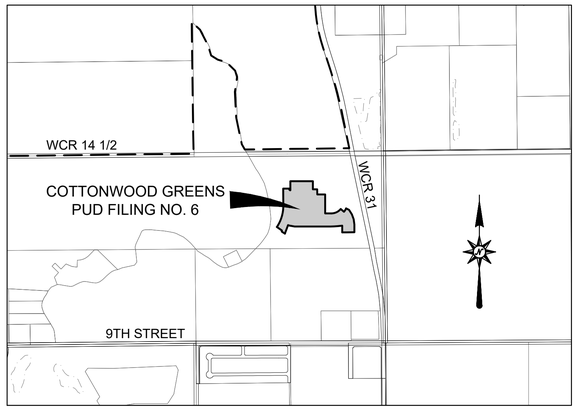
THENCE SOUTH 00°07'09" EAST 180.09 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE ALONG THE BOUNDARY OF SAID COTTONWOOD GREENS PUD FILING NO. 5 THE FOLLOWING SIXTEEN (16) COURSES:

1. SOUTH 00°07'09" EAST 1.46 FEET;
2. SOUTH 89°52'51" WEST 60.00 FEET;
3. NORTH 00°07'09" WEST 93.65 FEET;
4. SOUTH 84°52'51" WEST 65.46 FEET;
5. SOUTH 85°16'56" WEST 50.16 FEET;
6. SOUTH 89°25'40" WEST 50.00 FEET;
7. SOUTH 89°52'51" WEST 500.00 FEET;
8. NORTH 79°55'29" WEST 75.55 FEET;
9. NORTH 69°39'15" WEST 18.25 FEET;
10. SOUTH 20°20'45" WEST 127.99 FEET;
11. NORTH 56°15'29" WEST 45.21 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
12. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
13. NORTH 33°44'31" EAST 3.48 FEET;
14. NORTH 56°15'29" WEST 85.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 532.50 FEET AND A CENTER WHICH BEARS NORTH 56°15'29" WEST;
15. 314.70 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°51'40";
16. NORTH 00°17'09" WEST 240.47 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 442,010 SQUARE FEET, OR 10.15 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 6, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____. WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 6 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:
_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

FILE NO.	21002209 CC FLG 6
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

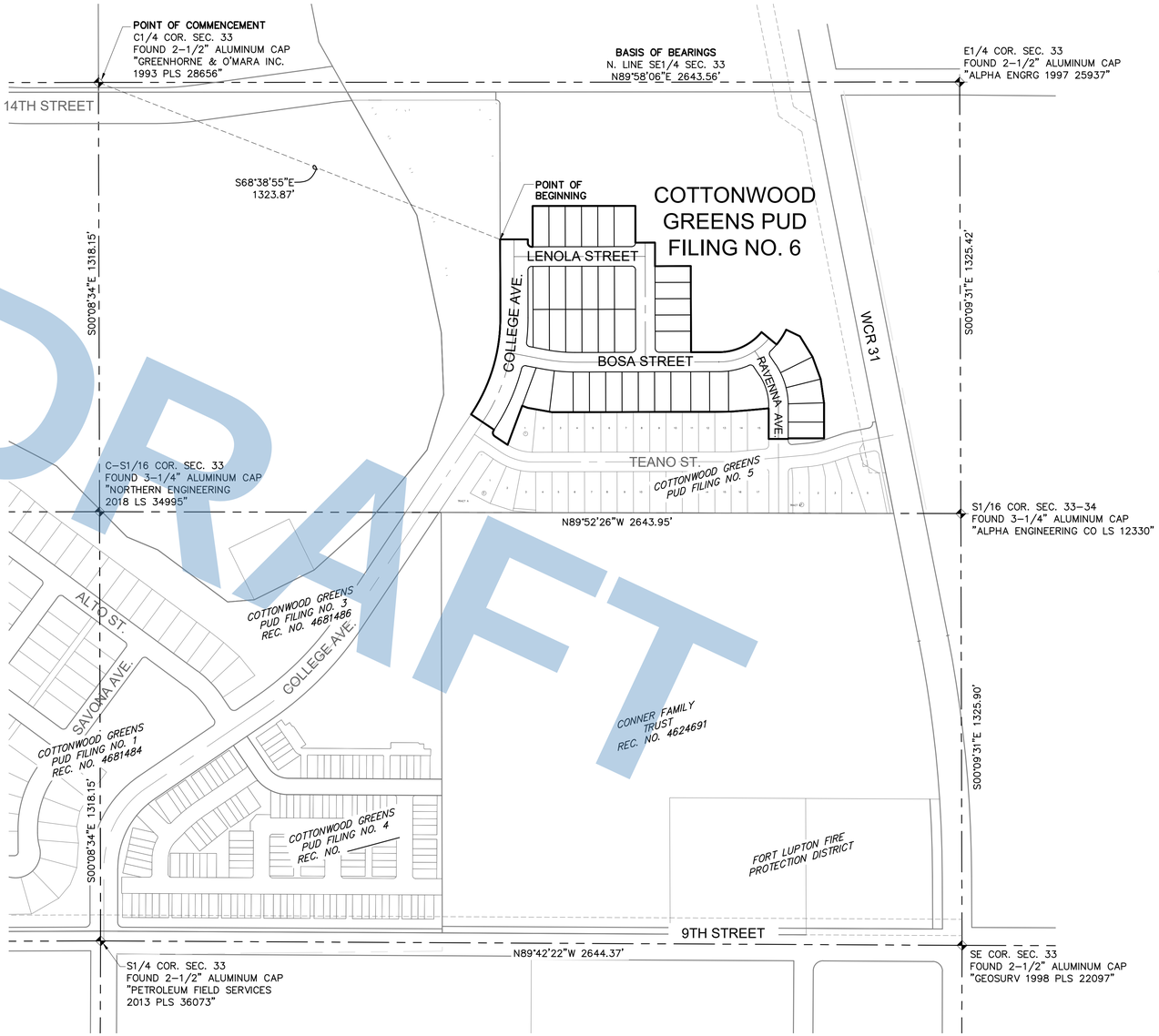
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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	10,531	0.24	UTILITIES, OPEN SPACE	METRO DISTRICT
B	3,958	0.09	UTILITIES, OPEN SPACE	METRO DISTRICT
	14,489	0.33		
LOTS (39)	276,524	6.34		
RIGHT-OF-WAY	151,601	3.48		
TOTAL	442,010	10.15		



DRAFT

DEVELOPER/APPLICANT
THERMO-FARMS, GENERAL PARTNERSHIP, L.L.P.
JOSEPH GUETLEIN
5305 W. 86TH AVENUE
ARVADA, CO (303) XXX-XXXX

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 443,518 SQARE FEET, OR 10.18 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

ATWELL
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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 2 OF 4

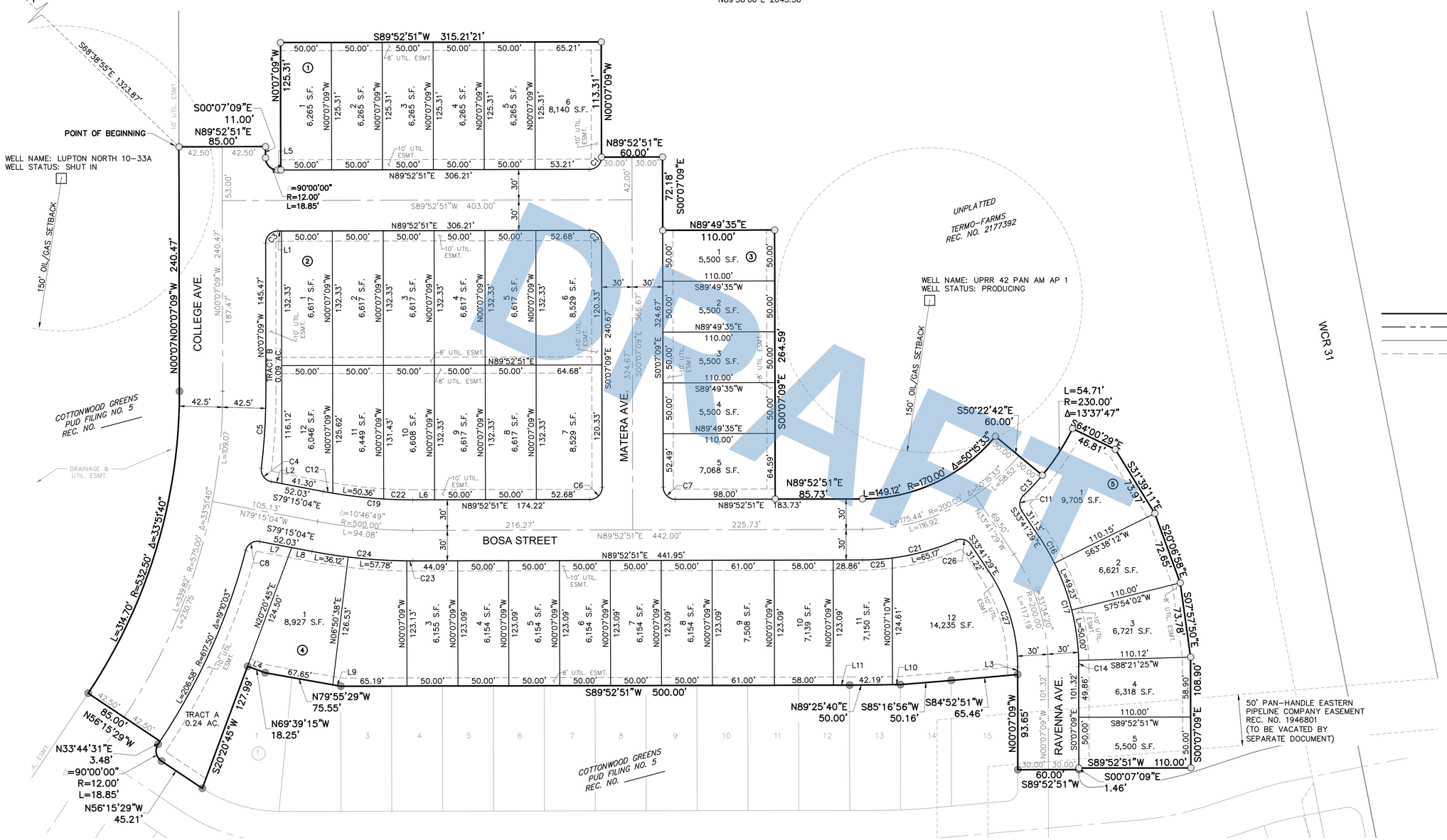
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DATE	02/02/2022
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JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



DRAFT

COLORADO LICENSED
MICHAEL LLOYD TUCK
38304
PROFESSIONAL LAND SURVEYOR
PRELIMINARY

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303.462.1100

REVISIONS

SHEET
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OF 4

FILE NO.	21002209 CC FLC 6
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

COTTONWOOD GREENS PUD FILING NO. 6

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
10.15 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N89°52'51"E	3.53'
L2	N79°15'04"W	10.73'
L3	S0°07'09"E	7.67'
L4	N69°39'15"W	18.25'
L5	S89°52'51"W	3.00'
L6	S89°52'51"W	21.54'
L7	N79°15'04"W	31.86'
L8	N79°15'04"W	20.17'
L9	N79°55'29"W	7.90'
L10	N89°25'40"E	7.81'
L11	N89°52'51"E	15.81'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	90°00'00"	12.00'	18.85'
C2	90°00'00"	12.00'	18.85'
C3	90°00'00"	12.00'	18.85'
C4	86°10'28"	12.00'	18.05'
C5	7°02'32"	617.50'	75.90'
C6	90°00'00"	12.00'	18.85'
C7	90°00'00"	12.00'	18.85'
C8	86°10'28"	12.00'	18.05'
C11	80°04'13"	12.00'	16.77'
C12	1°10'11"	470.00'	9.59'
C13	6°45'26"	230.00'	27.13'
C14	1°31'26"	230.00'	6.12'
C16	7°19'40"	230.00'	29.42'
C17	33°34'20"	230.00'	134.77'
C19	10°46'49"	470.00'	88.43'
C21	23°30'47"	230.00'	94.39'
C22	3°28'17"	470.00'	28.48'
C23	0°38'17"	530.49'	5.91'
C24	10°46'49"	530.49'	99.81'
C25	7°16'45"	230.00'	29.22'
C26	79°56'27"	12.00'	16.74'
C27	33°34'20"	170.00'	99.61'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PRATT
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

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143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
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OF 4

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COTTONWOOD GREENS PUD FILING NO. 7

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

14.45 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THERMO–FARMS AS DESCRIBED IN WARRANTY DEED RECORDED AT RECEPTION NO. 2177392, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE WEST END BY A FOUND 2–1/2" ALUMINUM CAP STAMPED "GREENHORNE & O'MARA INC. 1993 PLS 28656" AND AT THE EAST END BY A FOUND 2" ALUMINUM CAP STAMPED "ALPHA ENGRG 1997 25937". SAID NORTH LINE BEARS NORTH 89°58'06" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 88°37'23" EAST 1220.47 FEET TO THE NORTH LINE OF SAID THERMO–FARMS, ALSO BEING THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG SAID NORTH LINE NORTH 89°58'06" EAST 965.96 FEET TO THE NORTHEAST CORNER OF SAID THERMO–FARMS, ALSO BEING THE WESTERLY RIGHT–OF–WAY LINE OF WELD COUNTY 31;

THENCE ALONG THE EASTERLY LINE OF SAID THERMO–FARMS AND ALONG SAID WESTERLY RIGHT–OF–WAY LINE SOUTH 11°09'18" EAST 1032.34 FEET TO THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING SAID EASTERLY LINE AND SAID WESTERLY RIGHT–OF–WAY LINE AND ALONG SAID NORTHERLY LINE THE FOLLOWING EIGHT (8) COURSES:

1. SOUTH 78°50'42" WEST 10.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AND A CENTER WHICH BEARS SOUTH 78°50'43" WEST;
2. 23.56 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°59'59";
3. SOUTH 78°50'42" WEST 46.09 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 336.00 FEET;
4. 41.30 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°02'31";
5. SOUTH 71°48'11" WEST 49.59 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 264.00 FEET;
6. 60.26 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°04'40";
7. SOUTH 84°52'51" WEST 42.74 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
8. 19.90 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 95°00'00" TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 6 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

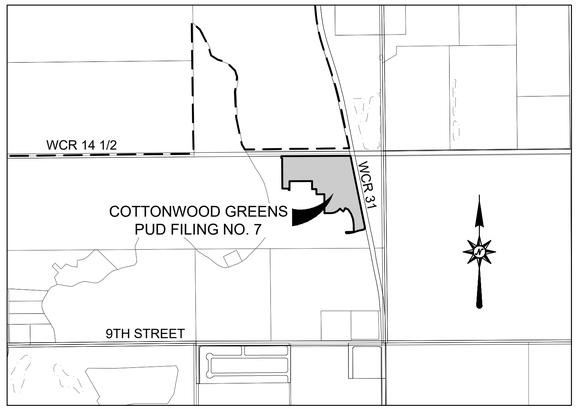
THENCE DEPARTING SAID NORTHERLY LINE AND ALONG THE EASTERLY AND NORTHERLY LINES OF SAID COTTONWOOD GREENS PUD FILING NO. 6 THE FOLLOWING TWENTY–TWO (22) COURSES:

1. NORTH 00°07'09" WEST 7.10 FEET;
2. NORTH 89°52'51" EAST 110.00 FEET;
3. NORTH 00°07'09" WEST 108.90 FEET;
4. NORTH 07°57'50" WEST 73.78 FEET;
5. NORTH 20°06'58" WEST 72.65 FEET;
6. NORTH 31°39'11" WEST 73.97 FEET;
7. NORTH 64°00'29" WEST 46.81 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 230.00 FEET AND A CENTER WHICH BEARS NORTH 64°00'29" WEST;
8. 54.71 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°37'47";
9. NORTH 50°22'42" WEST 60.00 FEET TO THE BEGINNING OF A NON–TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 170.00 FEET AND A CENTER WHICH BEARS NORTH 50°22'42" WEST;
10. 149.12 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 50°15'33";
11. SOUTH 89°52'51" WEST 85.73 FEET;
12. NORTH 00°07'09" WEST 264.59 FEET;
13. SOUTH 89°49'35" WEST 110.00 FEET;
14. NORTH 00°07'09" WEST 72.18 FEET;
15. SOUTH 89°52'51" WEST 60.00 FEET;
16. NORTH 00°07'09" WEST 113.31 FEET;
17. SOUTH 89°52'51" WEST 315.21 FEET;
18. SOUTH 00°07'09" EAST 125.31 FEET;
19. SOUTH 89°52'51" WEST 3.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
20. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
21. NORTH 00°07'09" WEST 11.00 FEET;
22. SOUTH 89°52'51" WEST 85.00 FEET TO THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5;

THENCE DEPARTING THE NORTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 6 AND ALONG SAID EASTERLY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 00°07'09" WEST 415.70 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;
2. 18.83 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 89°54'45";
3. NORTH 00°01'47" WEST 25.00 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 629,556 SQUARE FEET, OR 14.45 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, THERMO–FARMS, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 7, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THERMO–FARMS, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

THERMO–FARMS

BY: _____

ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____

OF _____, _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 7 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE–DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS–OF–WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

PRELIMINARY

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE–DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 4

FILE NO.	2100209 CC FLG 7
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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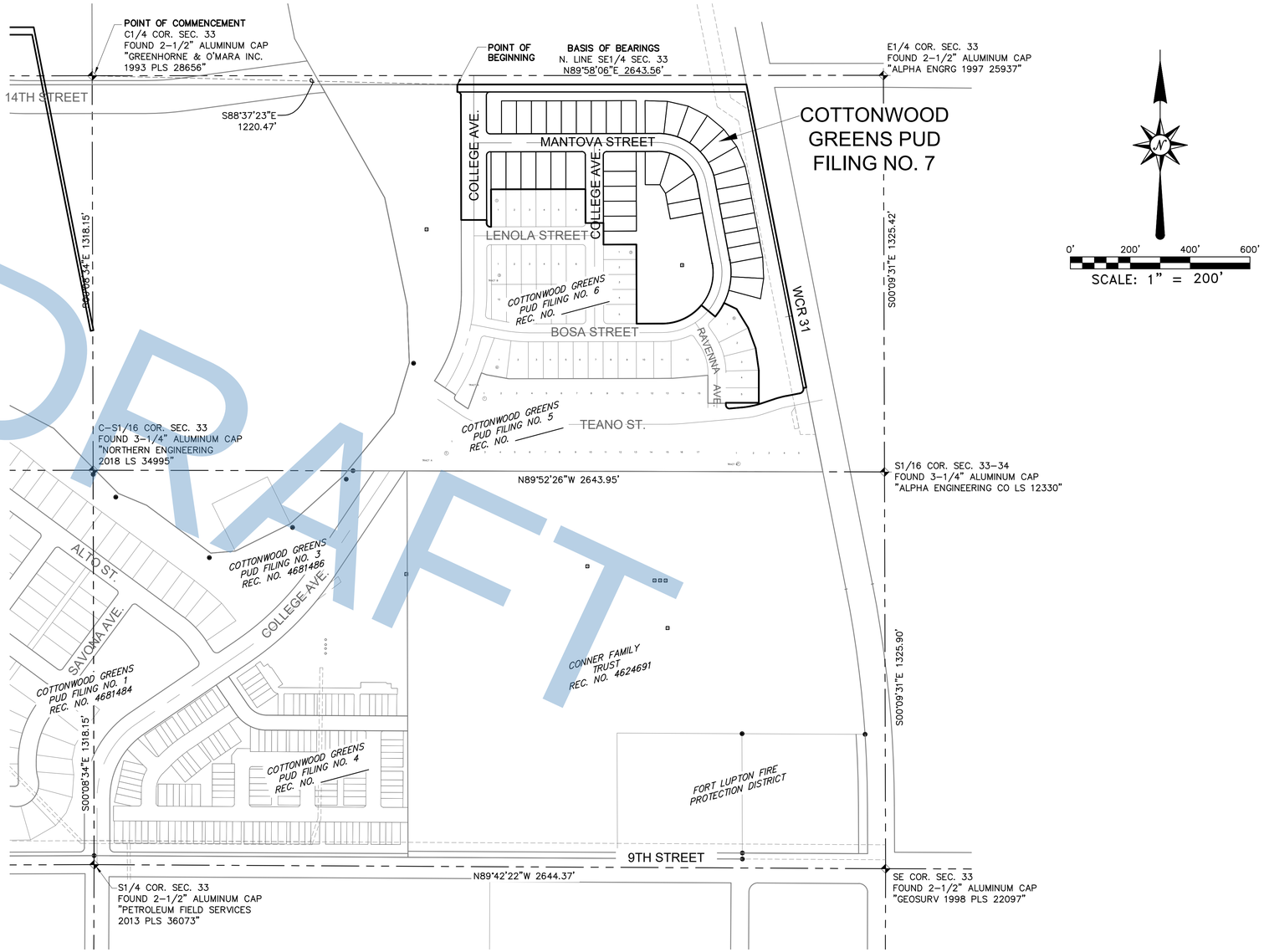
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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,697	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	133,498	3.06	UTILITIES, OPEN SPACE	METRO DISTRICT
C	101,697	2.33	UTILITIES, OPEN SPACE	METRO DISTRICT
D	34,289	0.79	RIGHT-OF-WAY	CITY OF FORT LUPTON
	273,181	6.26		
LOTS				
(38)	230,880	5.31		
RIGHT-OF-WAY	125,495	2.88	(159,784 S.F. 3.67 AC. INCL. TRACT D)	
TOTAL	629,556	14.45		



DRAFT

DEVELOPER/APPLICANT
COTTONWOOD DEVELOPMENT PARTNERS, LLC
JIM RIGHEIMER
4040 MacARTHUR BLVD., #250
NEWPORT BEACH, CA 92660 (303) 905-3496

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 637,767 SQARE FEET, OR 14.64 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°58'06" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
2
OF 4

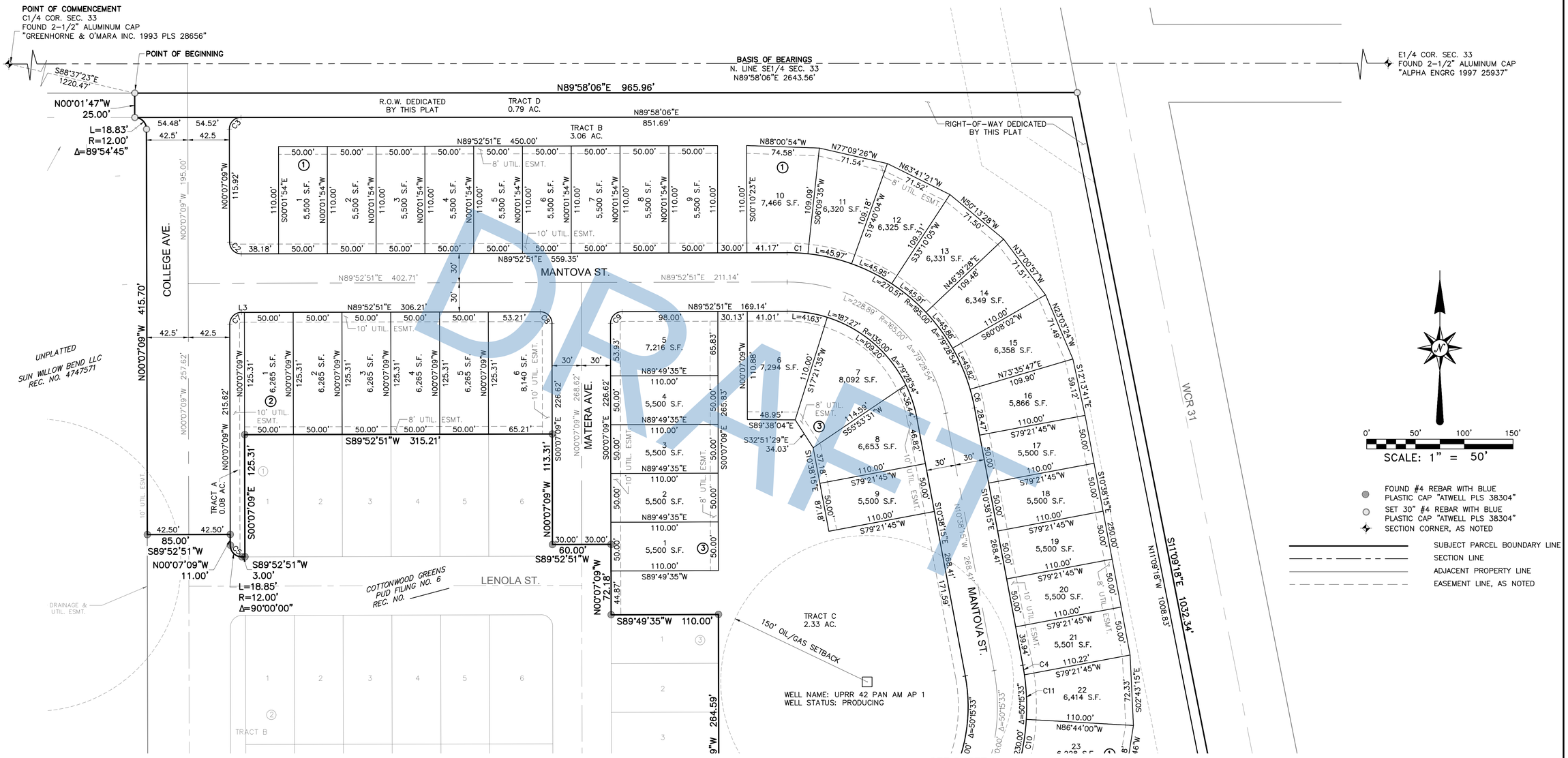
FILE NO.	21002209 CC FLG 7
DATE	02/02/2022
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CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



SCALE: 1" = 50'

- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD CHILDS
32204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

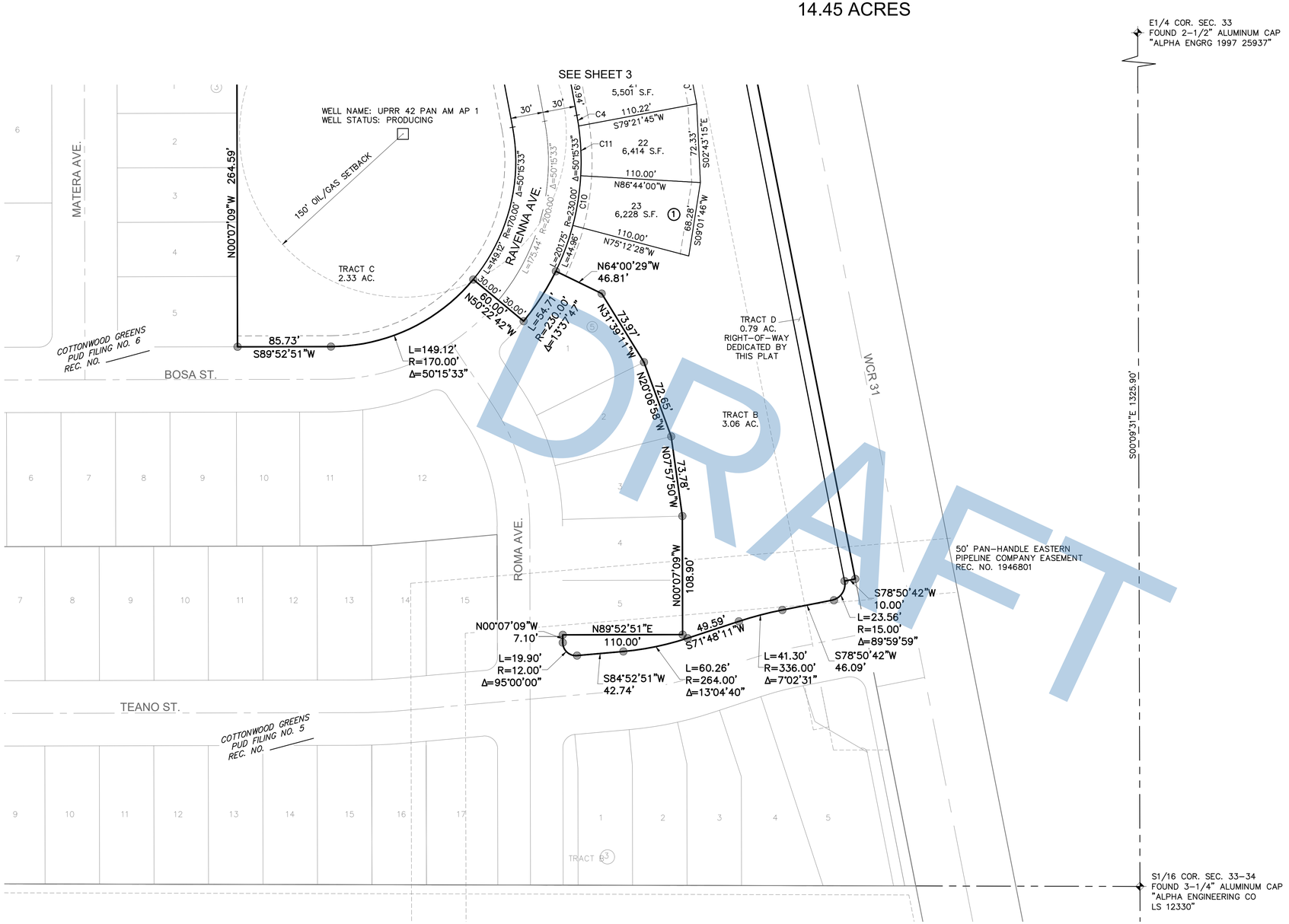
SHEET 3 OF 4

FILE NO.	21002209 CC FLE 7
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

COTTONWOOD GREENS PUD FILING NO. 7

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.45 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX



LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L3	N89°52'51"E	306.21'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	6°16'43"	195.00'	21.37'
C2	90°00'00"	12.00'	18.85'
C3	90°05'15"	12.00'	18.87'
C4	2°30'24"	230.00'	10.06'
C5	90°00'00"	12.00'	18.85'
C6	5°45'58"	195.00'	19.62'
C7	90°00'00"	12.00'	18.85'
C8	90°00'00"	12.00'	18.85'
C9	90°00'00"	12.00'	18.85'
C10	11°31'31"	230.00'	46.27'
C11	11°23'52"	230.00'	45.75'

DRAFT
PRELIMINARY

COLORADO LICENSED
MICHAEL LLOYD WANG
32204
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 4 OF 4

FILE NO.	21002209 CC FLC 7
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE CENTER QUARTER OF SAID SECTION 33;

THENCE SOUTH 38°32'50" EAST 1688.35 FEET TO THE NORTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTHEAST CORNER OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____ ____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTH LINE OF SAID CONNER FAMILY TRUST, AND ALONG THE SOUTH LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 5 SOUTH 89°52'26" EAST 1065.75 FEET;

THENCE DEPARTING SAID NORTH AND SOUTH LINES SOUTH 00°07'09" EAST 123.08 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

THENCE SOUTH 00°07'09" EAST 10.00 FEET;

THENCE SOUTH 89°52'51" WEST 60.00 FEET;

THENCE SOUTH 00°07'09" EAST 88.00 FEET;

THENCE SOUTH 89°52'51" WEST 110.51 FEET;

THENCE SOUTH 00°07'09" EAST 105.00 FEET;

THENCE SOUTH 89°52'51" WEST 584.88 FEET;

THENCE SOUTH 00°07'09" EAST 383.92 FEET;

THENCE SOUTH 89°52'51" WEST 110.00 FEET;

THENCE SOUTH 00°07'09" EAST 3.84 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 12.00 FEET;

THENCE 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";

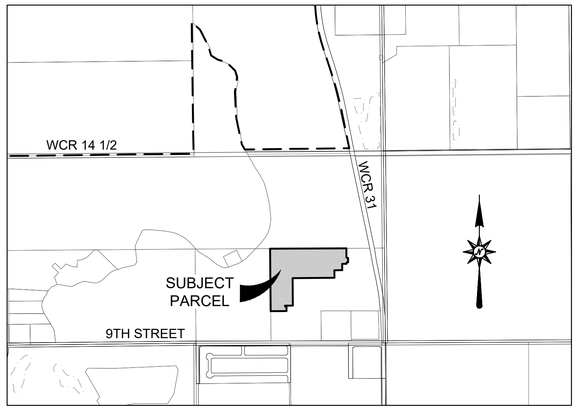
THENCE NORTH 89°52'51" EAST 10.00 FEET;

THENCE SOUTH 00°07'09" EAST 60.00 FEET;

THENCE NORTH 89°59'48" WEST 222.00 FEET TO THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG SAID EAST LINE NORTH 00°08'34" WEST 873.93 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 553,160 SQUARE FEET, OR 12.70 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 8, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____,

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 8 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__,

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:
_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____,

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

FILE NO.	21002209 CC FLG 8
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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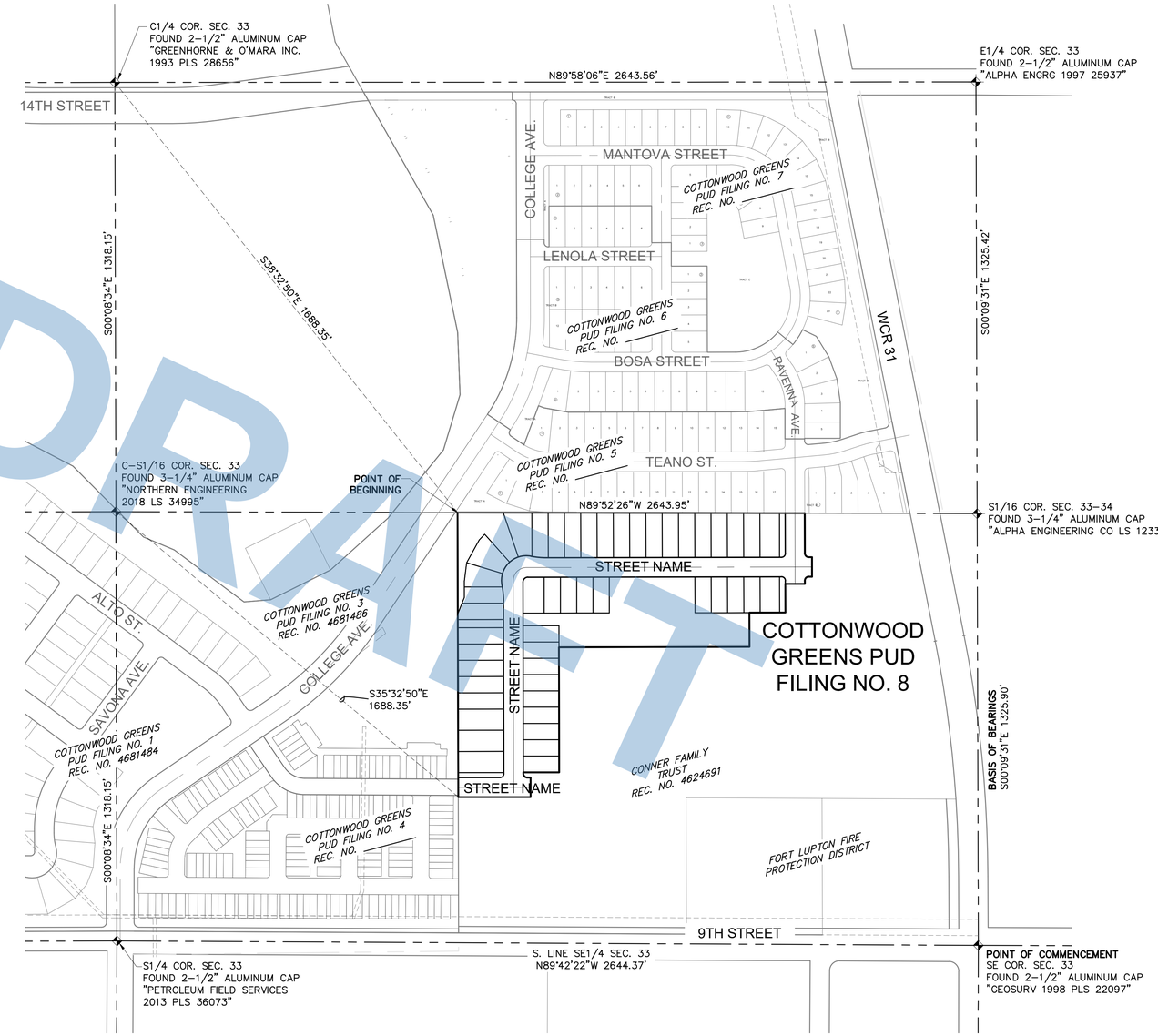
COTTONWOOD GREENS PUD FILING NO. 8

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

LAND USE TABLE

TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	3,505	0.08	UTILITIES, OPEN SPACE	METRO DISTRICT
B	2,314	0.05	UTILITIES, OPEN SPACE	METRO DISTRICT
C	1,895	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
D	94,609	2.17	UTILITIES, OPEN SPACE	METRO DISTRICT
E	22,042	0.51	UTILITIES, OPEN SPACE	METRO DISTRICT
	124,365	2.85		
LOTS (47)	311,416	7.15		
RIGHT-OF-WAY	116,573	2.68		
TOTAL	552,354	12.68		



DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 553,160 SQARE FEET, OR 12.70 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING SOUTH 00°09'31" EAST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A

SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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OF 3

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DATE	02/02/2022
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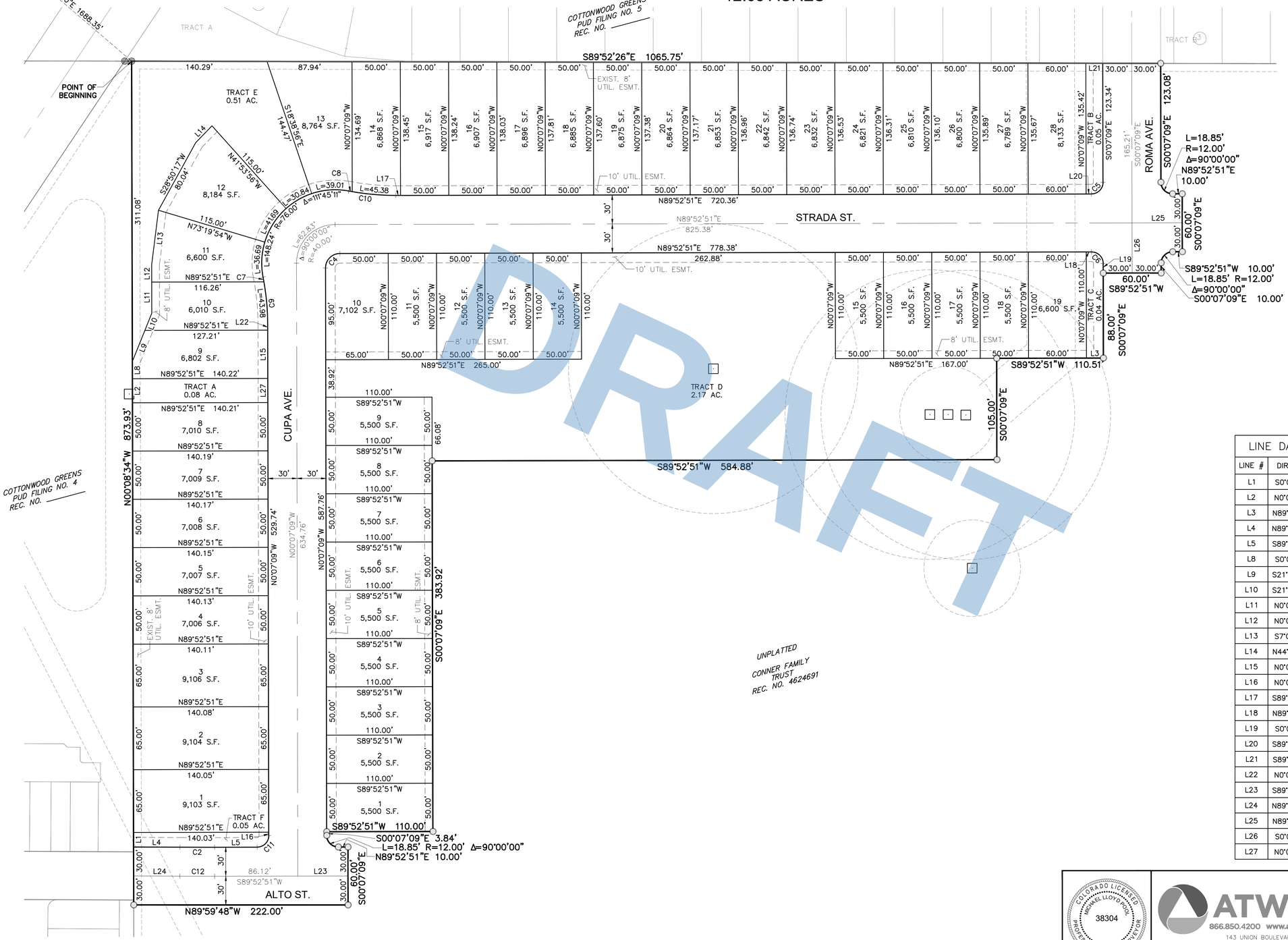
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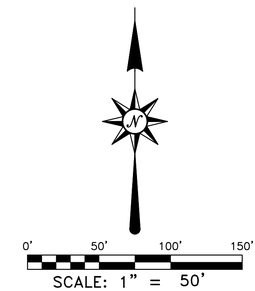
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COTTONWOOD GREENS PUD FILING NO. 8

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
12.68 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED

- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S0°08'34"E	15.02'
L2	N0°08'34"W	25.00'
L3	N89°52'51"E	17.51'
L4	N89°42'22"W	48.07'
L5	S89°52'51"W	44.12'
L8	S0°08'34"E	17.82'
L9	S21°54'31"W	34.71'
L10	S21°54'31"W	19.22'
L11	N0°07'09"W	32.18'
L12	N0°07'09"W	17.82'
L13	S7°04'12"W	57.05'
L14	N44°14'16"E	24.10'
L15	N0°07'09"W	50.00'
L16	N0°07'09"W	3.50'
L17	S89°52'51"W	4.85'
L18	N89°52'51"E	5.51'
L19	S0°07'09"E	10.00'
L20	S89°52'51"W	5.51'
L21	S89°52'26"E	17.51'
L22	N0°07'09"W	6.24'
L23	S89°52'51"W	52.00'
L24	N89°42'22"W	47.84'
L25	N89°52'51"E	52.00'
L26	S0°07'09"E	52.00'
L27	N0°07'09"W	25.00'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C2	0°24'47"	4970.00'	35.84'
C4	90°00'00"	15.00'	23.56'
C5	90°00'00"	12.00'	18.85'
C6	90°00'00"	12.00'	18.85'
C7	1°06'37"	258.00'	5.00'
C8	0°47'55"	258.00'	3.60'
C9	10°52'36"	258.00'	48.98'
C10	10°52'36"	258.00'	48.98'
C11	90°00'00"	12.00'	18.85'
C12	0°24'47"	5000.00'	36.05'

COLORADO LICENSED
MICHAEL LLOYD PUTNEY
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

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COTTONWOOD GREENS PUD FILING NO. 9

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 33;

THENCE NORTH 67°07'51" EAST 1137.10 FEET TO THE WEST LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF COTTONWOOD GREENS PUD FILING NO. 4 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, ALSO BEING THE SOUTHWEST CORNER OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING TWELVE (12) COURSES:

1. SOUTH 89°59'48" EAST 222.00 FEET;
2. NORTH 00°07'09" WEST 60.00 FEET;
3. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
4. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
5. NORTH 00°07'09" WEST 3.84 FEET;
6. NORTH 89°52'51" EAST 110.00 FEET;
7. NORTH 00°07'09" WEST 383.92 FEET;
8. NORTH 89°52'51" EAST 584.88 FEET;
9. NORTH 00°07'09" WEST 105.00 FEET;
10. NORTH 89°52'51" EAST 110.51 FEET;
11. NORTH 00°07'09" WEST 88.00 FEET;
12. NORTH 89°52'51" EAST 60.00 FEET;

THENCE DEPARTING SAID SOUTHERLY LINE SOUTH 00°07'09" EAST 222.76 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37";

THENCE SOUTH 60°12'00" EAST 27.33 FEET;

THENCE SOUTH 29°48'00" WEST 60.00 FEET;

THENCE NORTH 60°12'00" WEST 27.25 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 8.00 FEET;

THENCE 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 430.00 FEET;

THENCE 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04";

THENCE SOUTH 42°57'02" EAST 107.80 FEET;

THENCE SOUTH 00°17'38" WEST 40.73 FEET TO THE BOUNDARY LINE OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS;

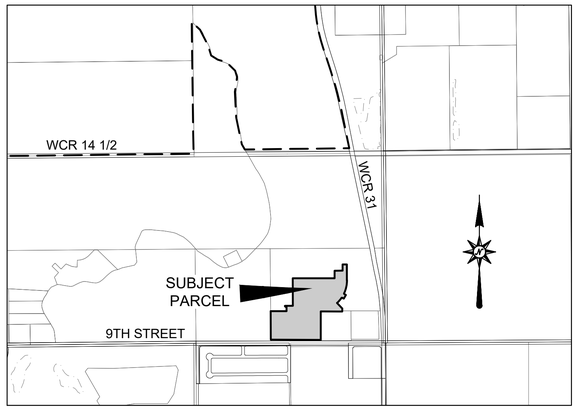
THENCE ALONG SAID BOUNDARY LINE AND ALONG THE NORTH AND WEST LINES OF SAID PARCEL OF LAND THE FOLLOWING TWO (2) COURSES:

1. NORTH 89°42'22" WEST 301.01 FEET;
2. SOUTH 00°09'48" EAST 398.65 FEET TO THE SOUTH LINE OF SAID TRACT OF LAND;

THENCE ALONG SAID SOUTH LINE NORTH 89°42'22" WEST 699.60 FEET TO THE SOUTHWEST CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE EAST LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 4;

THENCE ALONG THE WEST LINE OF SAID CONNER FAMILY TRUST AND ALONG SAID EAST LINE NORTH 00°08'34" WEST 397.30 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 636,491 SQUARE FEET, OR 14.61 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 9, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 9 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

_____
MAYOR

ATTEST:
_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 1 OF 3

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DATE 01/12/2022
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JOB NO. 21002209

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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	43,464	1.00	UTILITIES, OPEN SPACE	METRO DISTRICT
B	27,812	0.64	UTILITIES, OPEN SPACE	METRO DISTRICT
C	29,137	0.67	UTILITIES, OPEN SPACE	METRO DISTRICT
D	136,710	3.14	UTILITIES, OPEN SPACE	METRO DISTRICT
E	1,091	0.03	UTILITIES, OPEN SPACE	METRO DISTRICT
	241,213	5.48		
LOTS (36)	245,482	5.69		
RIGHT-OF-WAY	149,796	3.44		
TOTAL	636,491	14.61		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

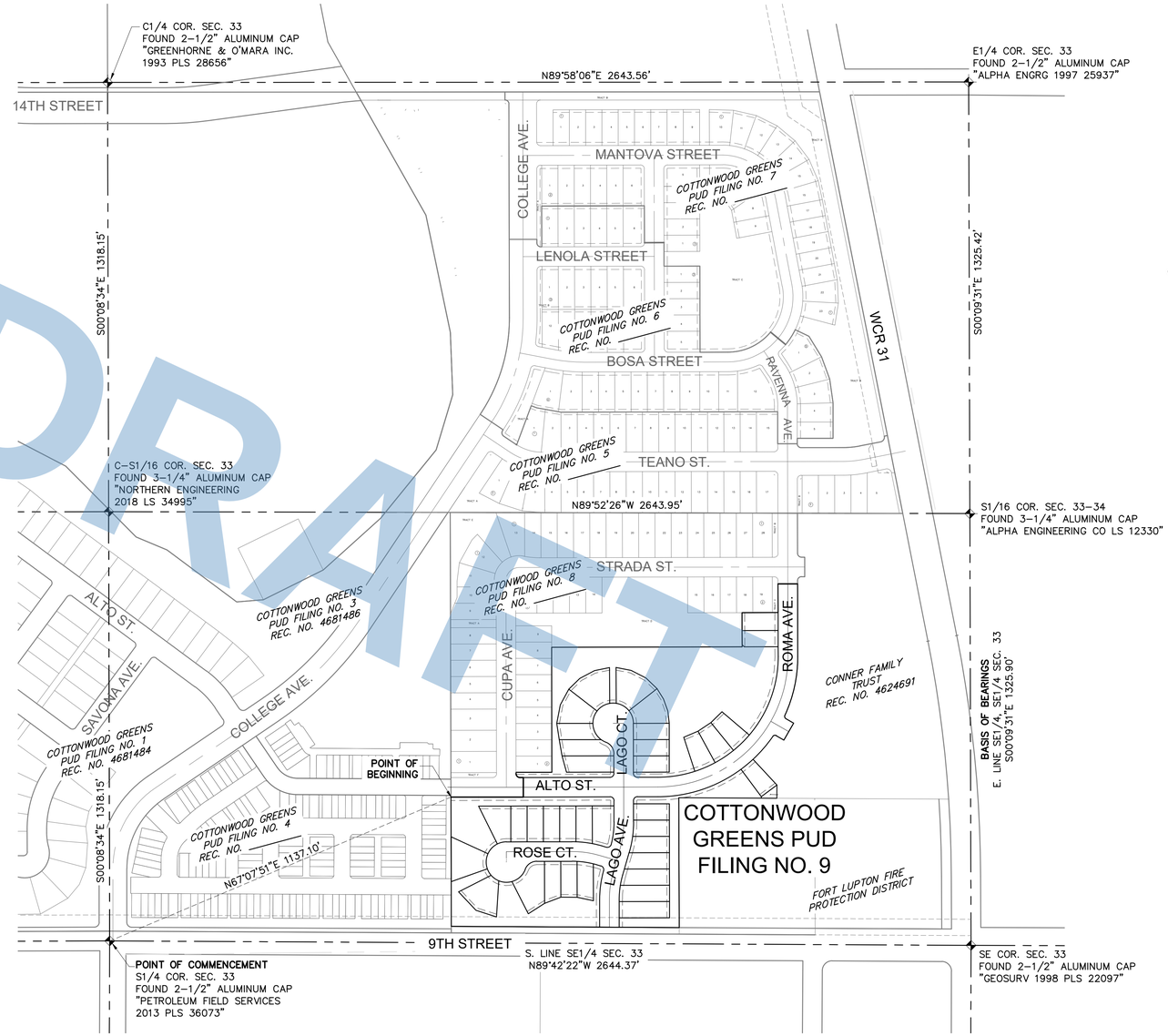
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

DRAFT

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

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REVISIONS

SHEET 2 OF 3

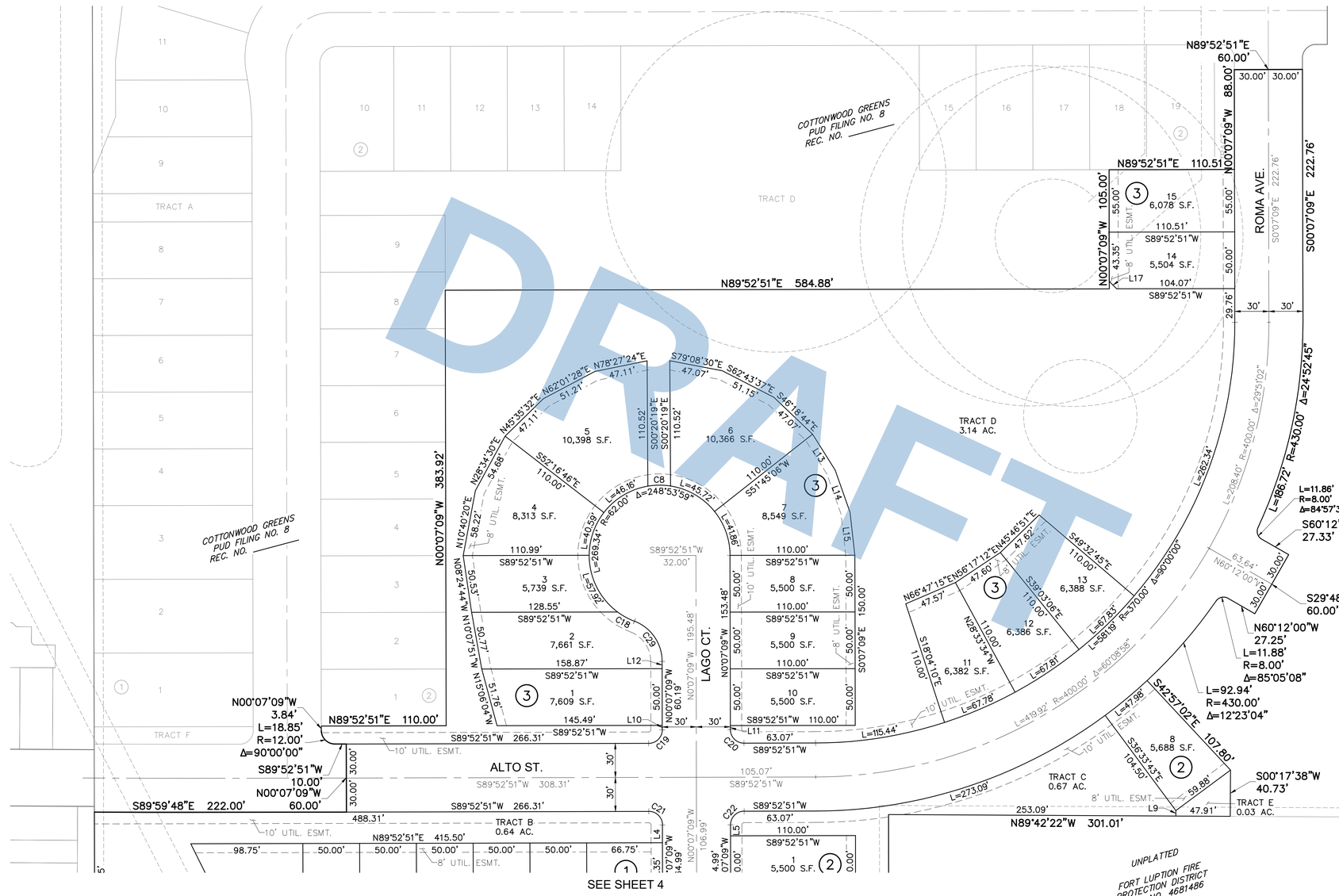
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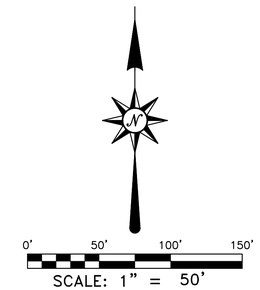
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





DRAFT

COLORADO LICENSED
MICHAEL LLOYD PAUL
38304
PROFESSIONAL LAND SURVEYOR

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143 UNION BOULEVARD, SUITE 700
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REVISIONS

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OF 4

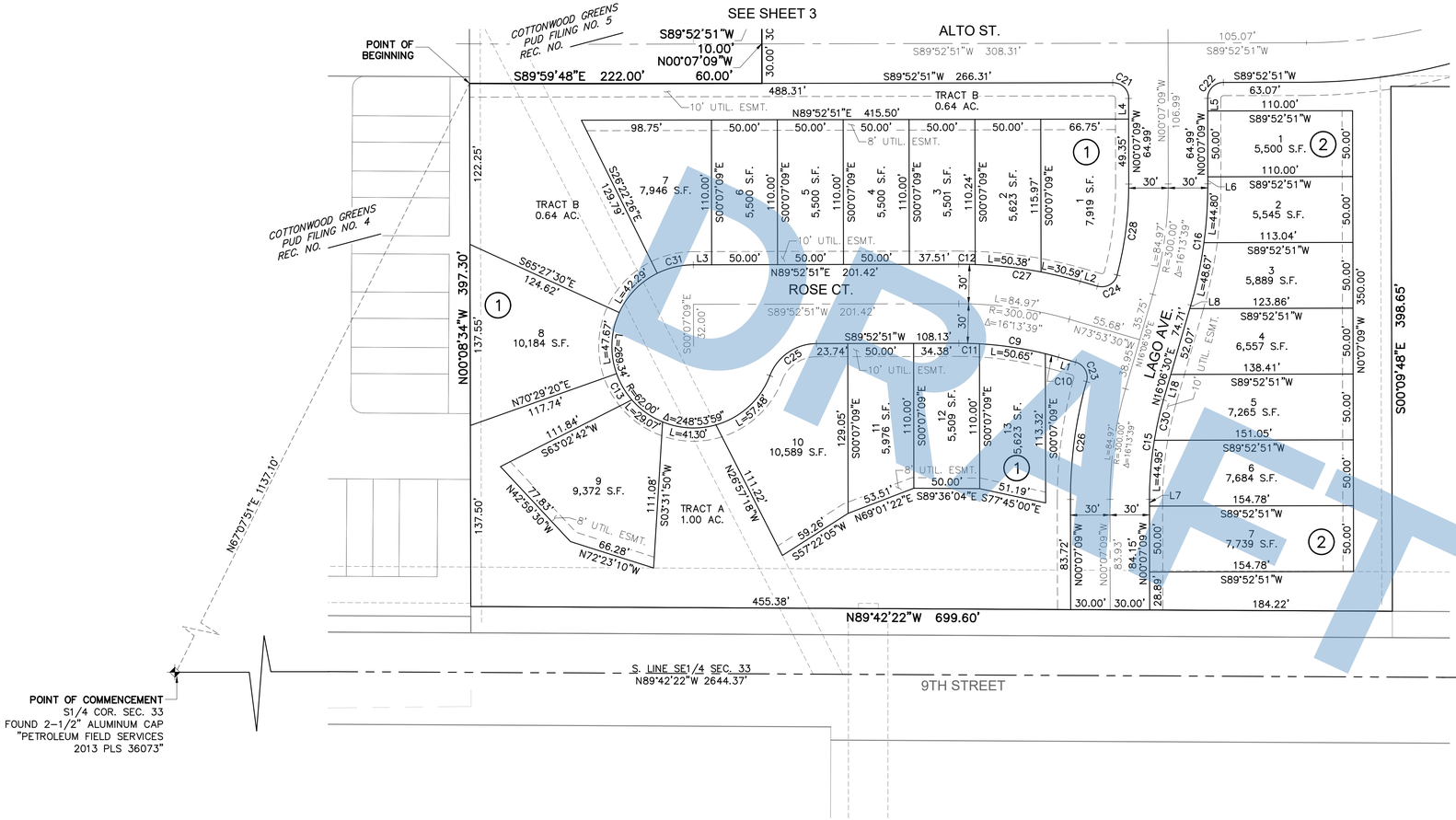
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JOB NO.	21002209

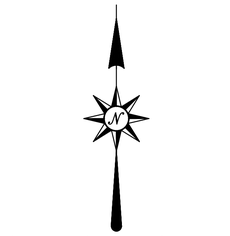
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COTTONWOOD GREENS PUD FILING NO. 9

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
14.61 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	N73°53'30"W	13.69'
L2	N73°53'30"W	13.60'
L3	S89°52'51"W	13.91'
L4	N0°07'09"W	15.64'
L5	S0°07'09"E	9.65'
L6	S0°07'09"E	5.34'
L7	N0°07'09"W	5.26'
L8	N16°06'30"E	2.54'
L9	S0°17'38"W	4.82'
L10	N0°07'09"W	3.84'
L11	N0°07'09"W	3.48'
L12	N0°07'09"W	6.35'
L13	N32°12'21"W	37.40'
L14	N19°23'50"W	39.34'
L15	N6°28'30"W	38.08'
L17	N44°09'34"W	9.25'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C8	18°33'49"	62.00'	20.09'
C9	16°13'39"	270.00'	76.47'
C10	2°09'45"	270.00'	10.19'
C11	3°18'56"	270.00'	15.62'
C12	2°10'09"	330.00'	12.49'
C13	21°20'53"	62.00'	23.10'
C15	16°13'39"	270.00'	76.47'
C16	16°13'39"	330.00'	93.46'
C18	15°42'19"	62.00'	16.99'
C19	90°00'00"	12.00'	18.85'
C20	90°00'00"	12.00'	18.85'
C21	90°00'00"	12.00'	18.85'
C22	90°00'00"	12.00'	18.85'
C23	89°29'22"	12.00'	18.74'
C24	91°23'15"	12.00'	19.14'
C25	68°53'59"	38.00'	45.70'
C26	15°43'01"	330.00'	90.52'
C27	16°13'39"	330.00'	93.46'
C28	14°50'25"	270.00'	69.93'
C29	68°53'59"	38.00'	45.70'
C30	6°41'21"	270.00'	31.52'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PEOU
38304
PROFESSIONAL LAND SURVEYOR

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET 3 OF 4

FILE NO.	21002209 CC FLG 8
DATE	10/XX/2021
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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COTTONWOOD GREENS PUD FILING NO. 10

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

LEGAL DESCRIPTION:

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO, ALSO BEING A PORTION OF THE CONNER FAMILY TRUST AS DESCRIBED AT RECEPTION NO. 4624691, WELD COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MONUMENTED AT THE NORTH END BY A 3-1/4" ALUMINUM CAP STAMPED "ALPHA ENGINEERING CO LS 12330" AND AT THE SOUTH END BY A 2-1/2" ALUMINUM CAP STAMPED "GEOSURV 1998 PLS 22097". SAID EAST LINE BEARS SOUTH 00°09'31" EAST, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 33;

THENCE NORTH 08°41'56" WEST 454.22 FEET TO A CORNER OF SAID CONNER FAMILY TRUST, ALSO BEING THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 3220873, WELD COUNTY RECORDS, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31, AND THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY LINE OF SAID CONNER FAMILY TRUST AND ALONG THE NORTH LINE OF SAID PARCEL OF LAND AND THEN ALONG THE NORTH LINE OF THAT PARCEL OF LAND RECORDED AT RECEPTION NO. 4681486, WELD COUNTY RECORDS NORTH 89°42'22" WEST 527.55 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 9, RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING SAID NORTH LINES AND ALONG SAID EASTERLY LINE THE FOLLOWING TEN (10) COURSES:

1. NORTH 00°17'38" EAST 40.73 FEET;
2. NORTH 42°57'02" WEST 107.80 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET AND A CENTER WHICH BEARS NORTH 42°54'05" WEST;
3. 92.94 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 12°23'04" TO THE BEGINNING OF A REVERSE CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
4. 11.88 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 85°05'08";
5. SOUTH 60°12'00" EAST 27.25 FEET;
6. NORTH 29°48'00" EAST 60.00 FEET;
7. NORTH 60°12'00" WEST 27.33 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 8.00 FEET;
8. 11.86 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 84°57'37" TO THE BEGINNING OF A REVERSE CURVE TO THE LEFT HAVING A RADIUS OF 430.00 FEET;
9. 186.72 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 24°52'45"
10. NORTH 00°07'09" WEST 222.76 FEET TO THE EASTERLY LINE OF COTTONWOOD GREENS PUD FILING NO. 8 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE DEPARTING THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 9 AND ALONG THE EASTERLY LINE OF SAID COTTONWOOD GREENS PUD FILING NO. 8 THE FOLLOWING SEVEN (7) COURSES:

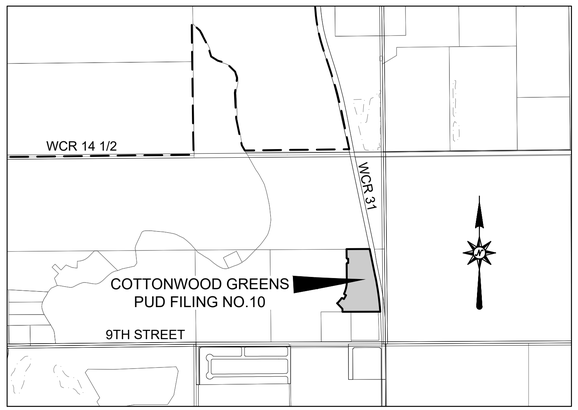
1. NORTH 00°07'09" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
2. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
3. NORTH 89°52'51" EAST 10.00 FEET;
4. NORTH 00°07'09" WEST 60.00 FEET;
5. SOUTH 89°52'51" WEST 10.00 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET;
6. 18.85 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 90°00'00";
7. NORTH 00°07'09" WEST 123.08 FEET TO THE NORTH LINE OF SAID TRACT OF LAND, ALSO BEING THE SOUTH LINE OF COTTONWOOD GREENS PUD FILING NO. 5 AS RECORDED AT RECEPTION NO. _____, WELD COUNTY RECORDS;

THENCE ALONG SAID NORTH AND SOUTH LINES SOUTH 89°52'26" EAST 323.53 FEET TO THE EASTERLY LINE OF SAID TRACT OF LAND, ALSO BEING THE WESTERLY RIGHT-OF-WAY LINE OF WELD COUNTY ROAD 31;

THENCE ALONG SAID EASTERLY LINE AND SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:

1. SOUTH 11°10'31" EAST 399.80 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 3789.72 FEET;
2. 489.60 FEET ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 7°24'08" TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS 374,010 SQUARE FEET, OR 8.59 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1"=1000'

DEDICATION:

KNOW ALL MEN BY THESE PRESENTS THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNERS OF THE LAND DESCRIBED HEREIN, HAVE CAUSED SAID LAND TO BE LAID OUT AND PLATTED UNDER THE NAME OF COTTONWOOD GREENS PUD FILING NO. 10, AND DO HEREBY DEDICATE TO THE CITY OF FORT LUPTON AND ITS LICENSEES FOR PUBLIC USE FOREVER ALL STREETS, ALLEYS AND UTILITY EASEMENTS AS INDICATED HEREON. IN COMPLIANCE WITH THE CITY OF FORT LUPTON SUBDIVISION REGULATIONS AND BY CONTRACTUAL AGREEMENT, THE LANDOWNERS SHALL BEAR ALL EXPENSES INVOLVED IN IMPROVEMENTS.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____ 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT WE, CONNER FAMILY TRUST, BEING THE SOLE OWNER(S) OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.

IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS _____ DAY OF _____, 20____.

CONNER FAMILY TRUST

BY: _____
ITS: _____

BY: _____

TITLE: _____

STATE OF _____)
) SS
COUNTY OF _____)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY ON THIS _____DAY OF _____, 20____.

WITNESS MY HAND AND SEAL.

NOTARY CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF WELD)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____, _____ OF _____

THIS _____ DAY OF _____ 20____, WITNESS MY HAND AND SEAL.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

THESE EASEMENTS ARE DEDICATED TO THE CITY OF FORT LUPTON FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC, GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES (DRY UTILITIES). UTILITY EASEMENTS SHALL ALSO BE GRANTED WITHIN ANY ACCESS EASEMENTS AND PRIVATE STREETS IN THE SUBDIVISION. PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND THE UTILITY PROVIDERS, AS GRANTEES, MAY REMOVE ANY INTERFERING OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION. PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ITS SUCCESSORS RESERVE THE RIGHT TO REQUIRE ADDITIONAL EASEMENTS AND TO REQUIRE THE PROPERTY OWNER TO GRANT PSCO AN EASEMENT ON ITS STANDARD FORM.

SURVEYOR'S CERTIFICATE:

I, MICHAEL LLOYD POOL, A DULY REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT OF COTTONWOOD GREENS PUD FILING NO. 10 WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAT HAS BEEN PREPARED IN COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO AT THE TIME OF THIS SURVEY AND WITHIN MY CONTROL, AND IS ACCURATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATE SHOWN HEREON.

SURVEYOR'S IMPROVEMENT CERTIFICATE:

I HEREBY CERTIFY THAT, ON THE DATE SHOWN, A FIELD SURVEY WAS CONDUCTED UNDER MY SUPERVISION OF THE ABOVE-DESCRIBED PROPERTY, AND THAT ALL BUILDING IMPROVEMENTS, EASEMENTS AND RIGHTS-OF-WAY IN EVIDENCE OR KNOWN TO ME ARE CORRECTLY SHOWN ON THE ABOVE PLAT. I FURTHER CERTIFY THAT THERE ARE NO ENCROACHMENTS BY AND/OR ON THIS PROPERTY, UNLESS OTHERWISE NOTED.

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

_____
MICHAEL LLOYD POOL, PLS
COLORADO REG. NO. 38304
FOR AND ON BEHALF OF ATWELL, LLC

CITY ENGINEER'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20__.

_____
CITY ENGINEER

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. 202XXXX OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE XX DAY OF XX, A.D. 202X AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

ATTEST:

_____
MAYOR

_____
CITY CLERK
(SEAL)

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
CITY ADMINISTRATOR

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS _____ DAY OF _____, 20_____.

_____
DIRECTOR OF PUBLIC WORKS

DRAFT

ATWELL
866.850.4200 www.atwell-group.com
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, CO 80228
303.462.1100

REVISIONS

SHEET
1
OF 4

FILE NO.	21002209 CC FIG 10
DATE	01/12/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

K:\21002209\SHWS\Survey\FIG 10\21002209_CC FIG 10 FINAL PLAT.dwg, PLAT COVER, 2/2/2022 8:33:17 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX

LAND USE TABLE				
TRACT	AREA S.F.	AREA AC.	LAND USE	OWNER/MAINTENANCE
A	42,431	0.97	UTILITIES, OPEN SPACE	METRO DISTRICT
B	1,814	0.04	UTILITIES, OPEN SPACE	METRO DISTRICT
C	37,154	0.85	UTILITIES, OPEN SPACE	METRO DISTRICT
D	2,496	0.06	UTILITIES, OPEN SPACE	METRO DISTRICT
E	8,894	0.20	UTILITIES, OPEN SPACE	METRO DISTRICT
	92,728	2.12		
LOTS (34)	211,090	4.85		
RIGHT-OF-WAY	60,754	1.39		
TOTAL	374,010	8.59		

DEVELOPER/APPLICANT
CONNER FAMILY TRUST
NAME
1621 FAIRHOUSE ROAD
SPRING HILL, TN 46111 PHONE

SITE ENGINEER
ATWELL, LLC
DANIEL RODRIGUEZ, P.E.
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

SURVEYOR
ATWELL, LLC
MICHAEL LLOYD POOL, PLS
143 UNION BOULEVARD, SUITE 700
LAKEWOOD, COLORADO 80228 (303) 462-1100

UTILITY MAINTENANCE STATEMENT:

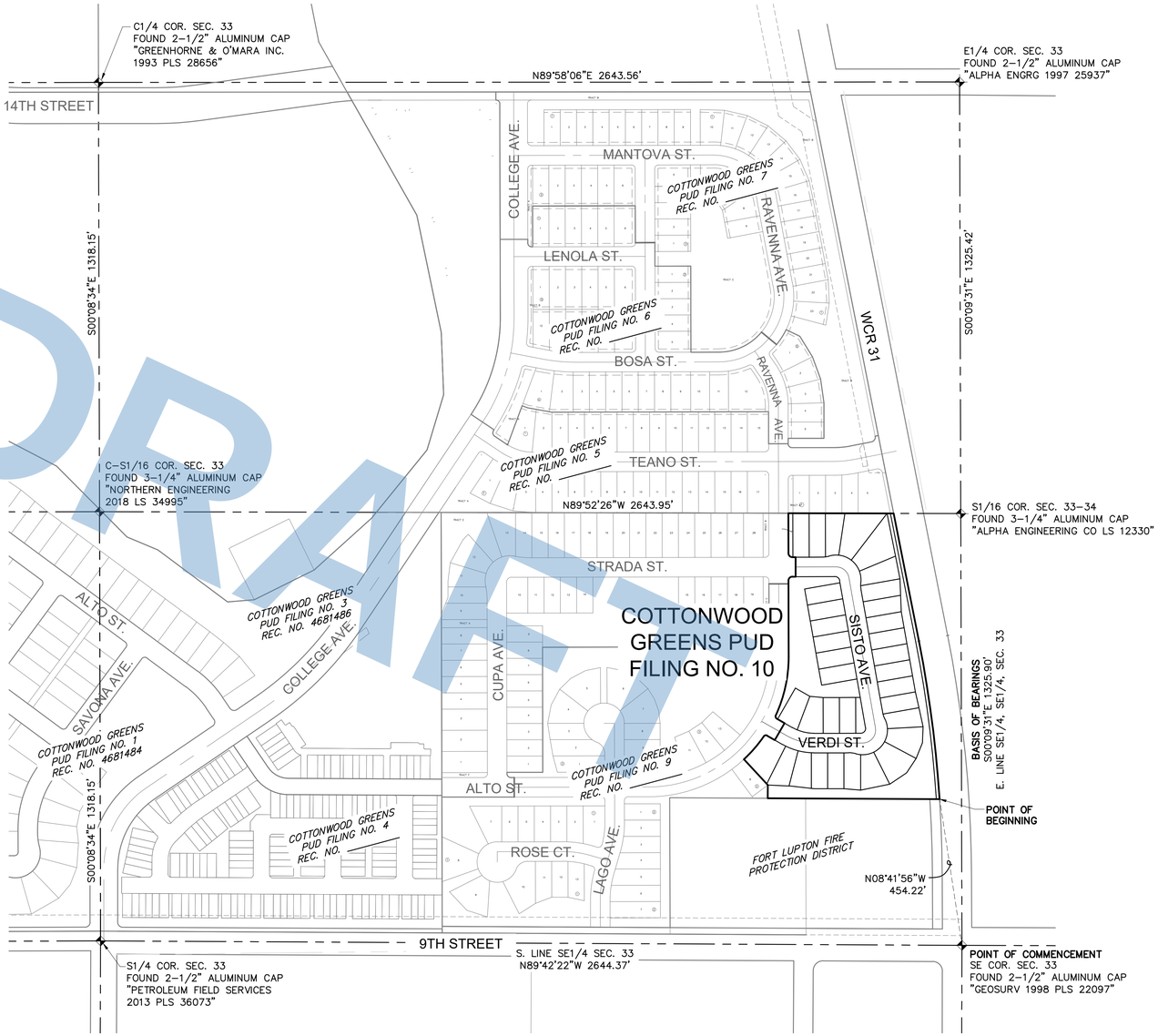
ALL PUBLIC WATER, STORM SEWER AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE CITY OF FORT LUPTON PUBLIC WORKS DEPARTMENT. ALL PUBLIC WATER, STORM SEWER, SANITARY SEWER AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. CITY IS RESPONSIBLE FOR MAINTENANCE OF THESE WATER, STORM SEWER AND SANITARY SEWER FACILITIES. CITY IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ATWELL, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. ATWELL, LLC RELIED UPON FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT XX DATED XX IN THE PROCESS OF THIS SURVEY TO AID IN EASEMENT AND OWNERSHIP RESEARCH.
2. GROSS LAND AREA IS 552,354 SQARE FEET, OR 12.68 ACRES, MORE OR LESS.
3. THE LINEAR UNIT OF MEASUREMENT FOR THIS SURVEY IS U. S. SURVEY FEET.
4. THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 33 AS BEARING NORTH 89°42'22" WEST, AND MONUMENTED AS SHOWN ON DRAWING.
5. CURRENT ZONING: PUD
6. PURCHASERS OF ANY OF THE PROPERTY ARE ADVISED THAT THE MINERAL ESTATE TO THE PROPERTY IS OWNED BY AND LEASED TO SEPARATE ENTITIES. PURCHASERS WILL NOT OWN ANY RIGHTS IN THE OIL, GAS AND MINERAL ESTATE IN AND TO THE PROPERTY. IN ADDITION, ALL HOMEOWNERS ASSOCIATIONS FOR THE PROPERTY AND BUYERS OF INDIVIDUAL LOTS OR HOMES WILL BE SUBJECT TO AND BURDENED BY ALL OF THE COVENANTS AND WAIVERS MADE BY A PRIOR SURFACE OWNER IN THAT CERTAIN SURFACE USE AGREEMENT RECORDED IN THE REAL PROPERTY RECORDS ON FEBRUARY 14, 2007 AT RECEPTION NO. 3455412, AS AMENDED, INCLUDING BUT NOT LIMITED TO THE WAIVING OF OBJECTIONS TO THE SETBACK REQUIREMENTS UNDER THE RULES OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION OR ANY LOCAL JURISDICTION.

PUD ZONING REQUIREMENTS

PARCEL	PUD ZONING	R3 ZONING
ALLOWABLE LAND USE	SFD, MFD	SFD, MFD
MINIMUM LOT SIZE (SF)	5,000 SF	5,000 SF
MINIMUM LOT WIDTH	30'	30'
MINIMUM LOT COVERAGE	N/A	N/A
PRIMARY USES		
MAXIMUM HEIGHT	35'	35'
MINIMUM FRONT YARD SETBACK (PRINCIPLE STRUCTURE)	15' TO HOUSE/20' TO GARAGE	25'
MINIMU SIDE YARD SETBACK	5'	5'
MINIMUM REAR YARD SETBACK	15'	20'
MINIMUM SIDE YARD (CORNER) SETBACK	15'	20'
MINIMUM DWELLING SIZE (SF)	750 SF (SFD)/ 500 SF (MFD)	750 SF (SFD)/ 500 SF (MFD)
ACCESSORY USE		
HEIGHT	35'	35'
FRONT SETBACK	N/A	N/A
SIDE SETBACK	5'	20'
REAR SETBACK	5'	N/A



SECTION CORNER, AS NOTED
SECTION LINE
SHEET MATCH LINE

COLORADO LICENSED
MICHAEL LLOYD POOL
38304
PROFESSIONAL LAND SURVEYOR

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LAKEWOOD, CO 80228
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REVISIONS

SHEET
2
OF 4

FILE NO.	21002209 CG FIG 10
DATE	02/02/2022
DRAWN BY	TWK
CHECK BY	MLP
JOB NO.	21002209

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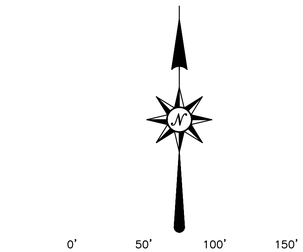
K:\21002209\SRV\Survey\FIG 10\21002209_CG FIG 10_FINAL PLAT.dwg, SHT 2, 2/2/2022 8:33:19 AM

COTTONWOOD GREENS PUD FILING NO. 10

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 2 NORTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
8.59 ACRES

PROJECT NO. LUP2021-00XX &
PLAN NO. FPL2021-00XX





- FOUND #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SET 30" #4 REBAR WITH BLUE PLASTIC CAP "ATWELL PLS 38304"
- SECTION CORNER, AS NOTED
- SUBJECT PARCEL BOUNDARY LINE
- SECTION LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE, AS NOTED

LINE DATA TABLE		
LINE #	DIRECTION	LENGTH
L1	S42°57'02"E	5.02'
L2	N29°48'00"E	30.00'
L3	S60°12'00"E	2.84'
L4	N29°48'00"E	30.00'
L5	S83°30'10"E	8.88'
L6	S89°52'51"W	15.07'
L7	S89°52'51"W	13.77'
L8	N9°59'24"W	6.51'
L9	N89°52'51"E	1.66'
L10	N89°52'26"W	13.66'
L11	N89°52'26"W	10.20'
L12	N89°52'26"W	10.20'
L13	S89°52'51"W	15.03'

CURVE DATA TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	3°08'57"	194.99'	10.72'
C2	7°05'22"	134.59'	16.65'
C3	99°52'15"	15.00'	26.15'
C4	80°07'45"	15.00'	20.98'
C5	16°02'46"	78.00'	21.84'
C6	11°18'17"	76.00'	15.00'
C7	7°14'33"	78.00'	9.86'
C8	8°48'13"	78.00'	11.98'
C9	22°03'43"	76.00'	29.26'
C10	7°21'55"	78.00'	10.03'
C11	8°40'51"	78.00'	11.82'
C12	3°52'00"	78.00'	5.26'
C13	12°10'46"	78.00'	16.58'
C14	16°02'46"	78.00'	21.84'
C15	16°02'46"	78.00'	21.84'
C16	16°02'46"	78.00'	21.84'
C17	29°30'16"	134.59'	69.31'
C18	2°16'51"	194.99'	7.76'
C19	29°34'11"	194.99'	100.63'

DRAFT

COLORADO LICENSED
MICHAEL LLOYD PONTIOUS
38304
PROFESSIONAL LAND SURVEYOR

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REVISIONS

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OF 3

FILE NO.	21002209 05 R16 10
DATE	02/02/2022
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JOB NO.	21002209

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City Council Meeting
Date: July 5, 2022
Staff: Laura Howe
- Human Resources Director

IM 2022-008

SUBJECT FOR DISCUSSION

Adding Amaze Health as an Employee Benefit Effective August 1, 2022 for a Total of $4,650 for 2022.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

City employees completed an Employee Opinion Survey in November-December 2021. Many employees expressed concern about the City's health plans. GBS Benefits conducted three Benefits Town Halls in March where there were in-person and virtual meetings with employees where they provided feedback on the City's benefits. One of the significant conclusions from those meetings was that navigating health care insurance and the health care system is extremely difficult for the average person.

Amaze Health is a Colorado based service that provides employees with support in navigating these systems. They provide support virtually via an app and via the phone. The services provided include telehealth (illness, prescription refill, finding specialists), education and assistance with medical bills.

The City is proposing adding this benefit on a trial basis effective August 1, 2022, through the end of the year for the employees covered by the Humana medical plan, currently 92 employees.

FINANCIAL CONSIDERATIONS

Amaze charges $25 per employee per month for its clients. Amaze charges $15 per employee per month for GBS Benefits clients. GBS Benefits receives no commission from Amaze Health.

To add this benefit for 92 employees, the cost would be equivalent to $1,380 per month, for a total cost of $6,900 for the 5 months remaining in 2022. Amaze has offered to subsidize 30 employees, which brings the cost to $930 per month for a total of $4,650 for the 5 months remaining in 2022. These costs are estimates, as employee enrollment in the medical plan may change.

LEGAL/POLITICAL CONSIDERATIONS

Amaze Health has a subscription agreement but no contract. We can cancel the service at any time. Amaze Health is not insurance.

ALTERNATIVES/OPTIONS

The City could opt not to subscribe to Amaze Health.

STAFF RECOMMENDATIONS

Staff recommends subscribing to Amaze Health on a trial basis through the end of 2022 and re-evaluating for 2023.

Attachments: Subscription Agreement

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

SUBSCRIPTION AGREEMENT

This Agreement is made and entered into by and between Amaze Health, P.O. Box 329, Longmont, CO 80502 ("Amaze"), and "Company" designated below.

Company Information	The City of Fort Lupton		
Address	130 South McKinley Ave.		
	Fort Lupton, CO 80621		
Primary Contact	Laura Howe	LHowe@FortLupton.Co.Gov	Office 720.466.6118 Mobile 303.304.3636

Billing

Company will be billed $15 per employee per month. There will be a credit of 30 employees (approximate size of police department) for each month billed in 2022.

Please check your choice of billing methods and provide the necessary billing information.

☐	ACH Xfer	Name on bank account	Routing Number	Account Number
☐	Credit Card	Credit Card Number	Expiration Date	Security Code

Requested Date to Begin Services | August 1, 2022

Billing is on or about the 10th day of each month. Company is billed for the number of employees enrolled in Amaze on the last day of the prior month. **Company may cancel at any time with effect at the end of the month of notice (or later upon request).** In the event of cancellation, final billing will occur on or about the 10th day of the month following cancellation. A credit of 30 employees will be included for each month of enrollment in 2022 (i.e., $450 credit per month in 2022).

Upon cancellation, Amaze may, at its discretion, continue providing any medical services it deems unreasonable to abruptly discontinue. Company will not be billed for such services.

Amaze shall deliver services to Company's employees and their families, as generally described on the Amaze website (https://amazehealth.com) and in accordance with the Legal Notices, which contain the terms and conditions, privacy policies, and informed consent for telehealth services.

This Agreement, together with the Legal Notices incorporated herein by reference, constitutes the sole and entire agreement of the parties to this Agreement with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings and agreements, both written and oral, with respect to such subject matter.

Let's get started! Signed _____

City Council Meeting
Date: July 5, 2022
Staff: Chris Cross
- City Administrator

IM 2022-009

SUBJECT FOR DISCUSSION

Update on the Opioid Settlement Opt-out for Direct Funding and Have the City Join the Regions Group.

SUMMARY STATEMENT/BACKGROUND DISCUSSION

On November 2, 2021 City Council approved AM 2021-181 to Participate in the Opioid Settlement with the State of Colorado. The Colorado Opioid Settlement Tracker (COST) has been set up and will be the program to help organize the opt-in or opt-out process. The City is proceeding with the Opt-out of direct funding option. It will join the regions resource group to maximize funding potential and limit staff requirements for tracking of funds.

Based on the default calculations provided in Sections E.2 and E.3, as well as Exhibits D and E, of the MOU, Fort Lupton stands to receive $2575.55 for Year 1 and the total opioid settlement funds over 18 years $22902.58, directly from Colorado's recent settlements with Johnson & Johnson and the three drug distributors. These figures above are best estimates at this time and may be subject to adjustments at a later date, for example to account for national administrative costs that may be incurred. Additionally, the opioid settlement funds will be different from year to year and will be communicated to Fort Lupton annually.

FINANCIAL CONSIDERATIONS

This will have all reporting requirements for funding ran through the Regions group and not through city finance department.

LEGAL/POLITICAL CONSIDERATIONS

City Attorney has reviewed.

ALTERNATIVES/OPTIONS

The City could choose to opt-in to direct funding but would become responsible for tracking and audits of the funds.

Certification of Council Approval:
Ordinance No. _____
Resolution No. _____

_____ City Clerk

_____ Date

Upcoming Events

July 5, 2022	City Council Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 8-9, 2022	Citywide Yard Sales
July 12, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 19, 2022	City Council Meeting, 130 S. McKinley Ave. 6:00 p.m.
July 26, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
August 2, 2022	National Night Out


CITY OF
Fort Lupton
EST 1836